POSTPARTUM REFERRAL FORM REPORT

Manitoba
Health

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Women's Health Directorate
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1. Introduction ..... /7
Background ..... /7
Purpose ..... /7
Limitations ..... /8

2. Total Births ..... /9

3. Newborn Status ..... /10
Stillbirths ..... /10
Interprovincial Comparison ..... /10
Regional Comparison ..... /10
Stillbirths and Maternal Age ..... /11
Neonatal Deaths ..... /11
Newborns Requiring Extended Hospital Stay ..... /12

4. Newborns of Low Birth Weight ..... /13
International Comparison ..... /13
Regional Comparison ..... /14
Low Birth Weight and Socioeconomic Status ..... /15
Low Birth Weight and Maternal Age ..... /15
Low Birth Weight and Prenatal Care/Prenatal Education ..... /21
Low Birth Weight and Maternal Smoking ..... /22
Low Birth Weight and Other Risk Factors ..... /28
First and High Order Births ..... /28
Drug and Alcohol Use ..... /28
Obstetrical History ..... /28

5. Delivery Type ..... /29

6. Breastfeeding ..... /30
Breastfeeding and Region of Residence ..... /30
Breastfeeding and Maternal Age ..... /32
Breastfeeding and Hospital of Delivery ..... /39
Breastfeeding and Low Birth Weight ..... /40

7. Immunization ..... /41

8. Referral Process ..... /42

9. Summary and Recommendations ..... /43

10. References ..... /44

11. Appendix

Appendix A Postpartum Referral Form ..... /45
Appendix B Map of Manitoba Health Regions (1987) ..... /46
Appendix C Newborns Fed Breastmilk at Maternal Discharge by Hospital of Delivery ..... /47
Appendix D Newborns Fed Breastmilk at Maternal Discharge by Hospital of Delivery and Region of Residence ..... /51

LIST OF TABLES

Table 1 – Total Births By Maternal Age and Region of Residence ..... /9
Table 2 – Stillbirths by Region of Residence ..... /11
Table 3 – Stillbirths by Maternal Age ..... /12
Table 4 – Proportion of Births by Birth Weight and Region of Residence ..... /14
Table 5 – Newborn Exposure to Maternal Smoke During Pregnancy by Region of Residence ..... /22
Table 6 – Delivery Type by Region of Residence ..... /29
Table 7 – Newborns Fed Breastmilk at Maternal Discharge by Region of Residence ..... /31
Table 8 – Newborns Fed Breastmilk at Maternal Discharge by Hospital of Delivery ..... /39
Table 9 – Low Birth Weight Newborns Fed Breastmilk by Region of Residence ..... /40
Table 10 – Immunization – Choice of Care Provider – Manitoba ..... /41
Table 11 – Immunization – Choice of Care Provider by Region of Residence ..... /42

LIST OF FIGURES

Figure 1 Stillbirth rates – Comparison of Provinces and Canada – 1988 ..... /10
Figure 2 Low Birth Weight Distribution – Selected Countries – 1983 ..... /13
Figure 3 Low Birth Weight Distribution by Maternal Age – Manitoba ..... /15
Figure 4 Low Birth Weight Distribution by Maternal Age – Winnipeg North Region ..... /16
Figure 5 Low Birth Weight Distribution by Maternal Age – Winnipeg South Region ..... /16
Figure 6 Low Birth Weight Distribution by Maternal Age – Winnipeg West Central Region ..... /17
Figure 7 Low Birth Weight Distribution by Maternal Age – Westman Region ..... /17
Figure 8 Low Birth Weight Distribution by Maternal Age – Eastman Region ..... /18
Figure 9 Low Birth Weight Distribution by Maternal Age – Central Region ..... /18
Figure 10 Low Birth Weight Distribution by Maternal Age – Interlake Region ..... /19
Figure 11 Low Birth Weight Distribution by Maternal Age – Parklands Region ..... /19
Figure 12 Low Birth Weight Distribution by Maternal Age – Norman Region ..... /20
Figure 13 Low Birth Weight Distribution by Maternal Age – Thompson Region ..... /20
Figure 14 Low Birth Weight Distribution by Maternal Age – City of Winnipeg ..... /21

Figure 15 Birth Weight and Maternal Smoking – Winnipeg North Region ..... /23
Figure 16 Birth Weight and Maternal Smoking – Winnipeg South Region ..... /23
Figure 17 Birth Weight and Maternal Smoking – Winnipeg West Central Region ..... /24
Figure 18 Birth Weight and Maternal Smoking – Westman Region ..... /24
Figure 19 Birth Weight and Maternal Smoking – Eastman Region ..... /25
Figure 20 Birth Weight and Maternal Smoking – Central Region ..... /25
Figure 21 Birth Weight and Maternal Smoking – Interlake Region ..... /26
Figure 22 Birth Weight and Maternal Smoking – Parklands Region ..... /26
Figure 23 Birth Weight and Maternal Smoking – Norman Region ..... /27
Figure 24 Birth Weight and Maternal Smoking– Thompson Region ..... /27
Figure 25 Birth Weight and Maternal Smoking – City of Winnipeg ..... /28
Figure 26 Newborns Fed Breastmilk by Maternal Age – Manitoba ..... /32
Figure 27 Newborns Fed Breastmilk by Maternal Age – Winnipeg North Region ..... /33
Figure 28 Newborns Fed Breastmilk by Maternal Age – Winnipeg South Region ..... /33
Figure 29 Newborns Fed Breastmilk by Maternal Age – Winnipeg West Central Region ..... /34
Figure 30 Newborns Fed Breastmilk by Maternal Age – Westman Region ..... /34
Figure 31 Newborns Fed Breastmilk by Maternal Age – Eastman Region ..... /35
Figure 32 Newborns Fed Breastmilk by Maternal Age – Central Region ..... /35
Figure 33 Newborns Fed Breastmilk by Maternal Age – Interlake Region ..... /36
Figure 34 Newborns Fed Breastmilk by Maternal Age – Parklands Region ..... /36
Figure 35 Newborns Fed Breastmilk by Maternal Age – Norman Region ..... /37
Figure 36 Newborns Fed Breastmilk by Maternal Age – Thompson Region ..... /37
Figure 37 Newborns Fed Breastmilk by Maternal Age – City of Winnipeg ..... /38

INTRODUCTION

Background

The Manitoba Health Postpartum Referral Program was revised in 1987 to facilitate discharge planning and the admission process to community health. A referral mechanism is essential to ensure that care is available to support parents and families in the physical and psychosocial adjustments with the birth of a child.

The **Postpartum Referral Form** (Appendix A) is one component of the Postpartum Referral Program. The form was developed to meet the following objectives:

1. provide information to public health nurses on women, newborns and families in order to appropriately meet service needs;

2. provide a data base for identification of trends in the childbearing population in Manitoba; and

3. provide a data base for identification of future health needs of childbearing women and high risk populations.

Thus, the information collected on the **Postpartum Referral Form** contributes to current and future health care planning in hospital facilities and in community services. No similar community health data base exists in Canada.

A significant feature of the postpartum referral data base is that it can be merged with other systems, such as the Health Services Commission hospital abstract system and the Manitoba Immunization Monitoring System (MIMS). This expands the number of variables that can be described and compared as well as creating the potential for long term follow-up.

Purpose

The purpose of the report is to:

1. summarize and analyze selected data recorded on the **Postpartum Referral Form** for births between July 1, 1987, and December 31,1988;

2. communicate a summary of data to service providers in facilities and public health regions in Manitoba;

3. identify problem areas in the data collection procedure, the data entry procedure, and the Manitoba Health Services Commission Postpartum Computer Program;

4. make recommendations for future postpartum data collection; and

5. generate information for an evaluation of the **Postpartum Referral Form** correct service providers in facilities and public health regions in Manitoba, including:

   - usefulness of data presently collected (eg. does the form adequately collect data desired?)
   - additional data required/desired
   - difficulties in completing the form (rationale eg. form unclear, guidelines unclear)
   - usefulness of the form as a documentation tool/suggestions for change.

Limitations

The **Postpartum Referral Form** is completed for all Manitoba women who deliver in Manitoba hospitals at 20 or more weeks gestation. In the event of multiple births, two or more forms are completed, indicating one mother and two or more babies.

This report is based on data obtained from **Postpartum Referral Forms** that were forwarded to the Maternal & Child Health Directorate. The data accounts for 23,613 or greater than 95 percent of all births to Manitoba residents at 20 weeks or more gestation during an 18 month time period of July 1, 1987 to December 31, 1988 inclusive.

Calculated rates and percentages are based on the number of ***Postpartum Referral Forms*** *returned to the Maternal & Child Health Directorate.* In some cases, inconsistencies in completing the form and/or in the data entry process resulted in inaccurate data. Missing data are acknowledged when they affect the reported results.

Data on treaty and non-treaty women are combined. Data on gravidy and parity are inaccurate. Therefore, data on primigravidas and multigravidas are combined. Low birth weight (LBW) is defined as less than or equal to 2500 grams at birth, and includes premature and growth retarded infants.

The report represents an analysis of the following variables:

Postpartum Women: gravidy/parity, age, education, prenatal care, attendance at prenatal classes, smoking habits, type of delivery
Newborns: status at birth, birth weight, type of feeding
Hospitals of Delivery: type of feeding
Public Health: referral to field public health nurse, receipt of referral by office and public health office, public health nurse contact in the community, immunization care provider

Data on total births and newborn status are published in the Maternal & Child Care Vital statistics yearly updates. Discrepancies between these data and the data in this report are due to differences in the reporting time period and missing data.

TOTAL BIRTHS

Table 1 indicates the total number of births greater than 20 weeks gestation by maternal age and region of residence.

TABLE 1

TOTAL BIRTHS BY MATERNAL AGE AND REGION OF RESIDENCE

MANITOBA

JULY 1, 1987-DECEMBER 31, 1988

Region	Maternal Age						Missing Data	Total
	<15	15-19	20-24	25-29	30-34	>34		
Winnipeg North	6	104	503	1092	729	216	0	2650
Winnipeg South	9	100	583	1431	1160	445	0	3728
Winnipeg West Central	2	46	221	463	295	92	0	1119
Westman	7	165	613	1088	518	144	1	2536
Eastman	3	127	448	733	416	125	1	1853
Central	3	134	577	908	477	139	3	2241
Interlake	7	102	324	533	312	100	1	1379
Parklands	3	98	232	279	164	48	0	824
Norman	1	67	147	184	77	27	0	503
Thompson	8	215	490	363	196	61	1	1334
City of Winnipeg	17	562	1385	1805	1151	526	0	5446
MANITOBA	**66**	**1720**	**5523**	**8879**	**5495**	**1923**	**7***	**23,613****

* missing data on age

** excludes 1,363 live births and 28 stillbirths due to missing postpartum referral forms

NEWBORN STATUS

The **Postpartum Referral Form** includes information on newborn status at the time of maternal discharge. The primary reason for including newborn status on the form is for prioritizing service needs by public health staff.

Stillbirths

Interprovincial Comparison

Figure 1 presents a comparison of provincial and territorial stillbirth rates for 1988. The Northwest Territories had the highest stillbirth rate (12.2/1000), followed by Prince Edward Island (8.6/1000) and the Yukon (7.7/1000). New Brunswick had the lowest stillbirth rate (4.3). Of the prairie provinces, Saskatchewan had the lowest stillbirth rate (5.6/1000), and Manitoba had the second lowest (5.8/1000 – the difference between this rate and the rate calculated from the postpartum referral form data is due to differences in the reporting time period and missing data).

Regional Comparison

Table 2 indicates the number of live births and number and rate of stillbirths by region of residence. Stillbirth rates were highest in the City of Winnipeg Public Health Region, and Westman Region, and lowest in Winnipeg South Region, Winnipeg North Region and Eastman Region.

FIGURE 1
STILLBIRTH RATES
COMPARISON OF PROVINCES AND CANADA - 1988
SOURCE: STATISTICS CANADA

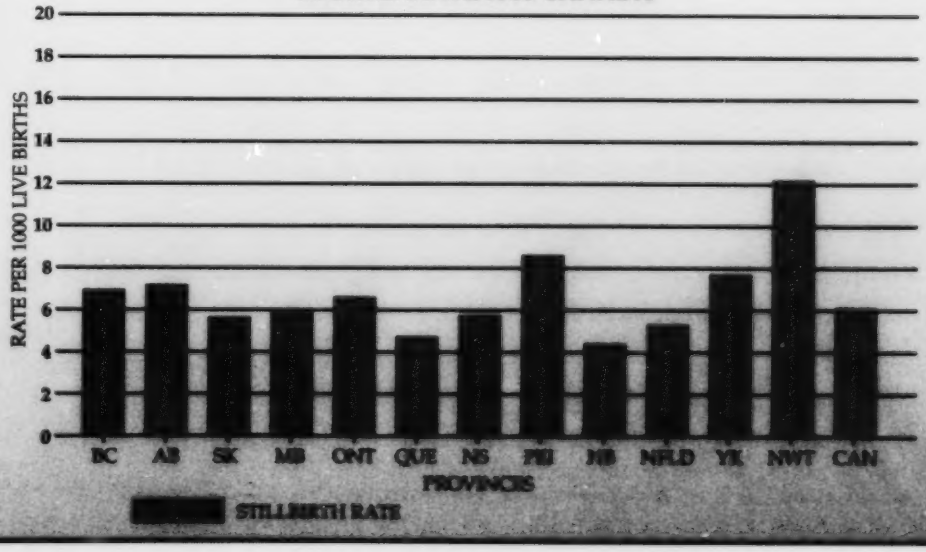


TABLE 2
STILLBIRTHS* BY REGION OF RESIDENCE
MANITOBA
JULY 1, 1987-DECEMBER 31, 1988

Region	Live Births	Stillbirths	Stillbirth Rate**
Winnipeg North	2641	9	3.4
Winnipeg South	3719	9	2.4
Winnipeg West Central	1114	5	4.5
Westman	2519	17	6.7
Eastman	1846	7	3.8
Central	2231	10	4.5
Interlake	1372	7	5.1
Parklands	820	4	4.9
Norman	501	2	4.0
Thompson	1327	7	5.3
City of Winnipeg	5405	41	7.6
MANITOBA	**23,495** ***	**188** ****	**5.0**

* Stillbirth is defined as fetal death of 20 or more weeks gestation
** Number of stillbirths per 1000 live births
*** Excludes 1,363 live births due to missing postpartum referral forms
**** Excludes 28 stillbirths due to missing postpartum referral forms

Stillbirths and Maternal Age

Table 3 indicates the number and rate of stillbirths in Manitoba by maternal age. Although stillbirth rates were highest for women less than 15 years of age, this rate is suspect due to very small numbers. Stillbirth rates decreased with maternal age to the 25-29 year age group, then increased with increasing maternal age.

Neonatal Deaths

Neonatal deaths are recorded on the **Postpartum Referral Form** to communicate this information to public health staff. The data is not reported as women may be discharged prior to their newborns, and neonatal death may occur after the woman has been discharged.

TABLE 3
STILLBIRTHS* BY MATERNAL AGE
MANITOBA
JULY 1, 1987-DECEMBER 31, 1988

Maternal Age	Live Births	Stillbirths	Stillbirth Rate**
<15	65	1	15.4***
15-19	1708	12	7.0
20-24	5493	30	5.5
25-29	8846	33	3.7
30-34	5472	23	4.2
>34	1904	19	10.0
MANITOBA	**23,488****	**118*****	**5.0**

* Stillbirth is defined as fetal death of 20 or more weeks gestation
** Number of stillbirths per 1000 live births
*** Suspect due to small numbers
**** Excludes 7 live births due to missing data on age and 1,363 live births due to missing postpartum referral forms
***** Excludes 28 stillbirths due to missing postpartum referral forms

Newborns Requiring Extended Hospital Stay

Approximately 6 percent of newborns were discharged without their mothers. Data from the infant referral form indicate the following reasons for extended newborn hospital stay: prematurity (52 percent); respiratory (11 percent); small for gestational age (7 percent); hyperbilirubinemia (5 percent); cardiac (5 percent); congenital abnormality (4 percent); other (13 percent); and missing data (2 percent) [Percentages do not add up to 100 percent due to rounding].

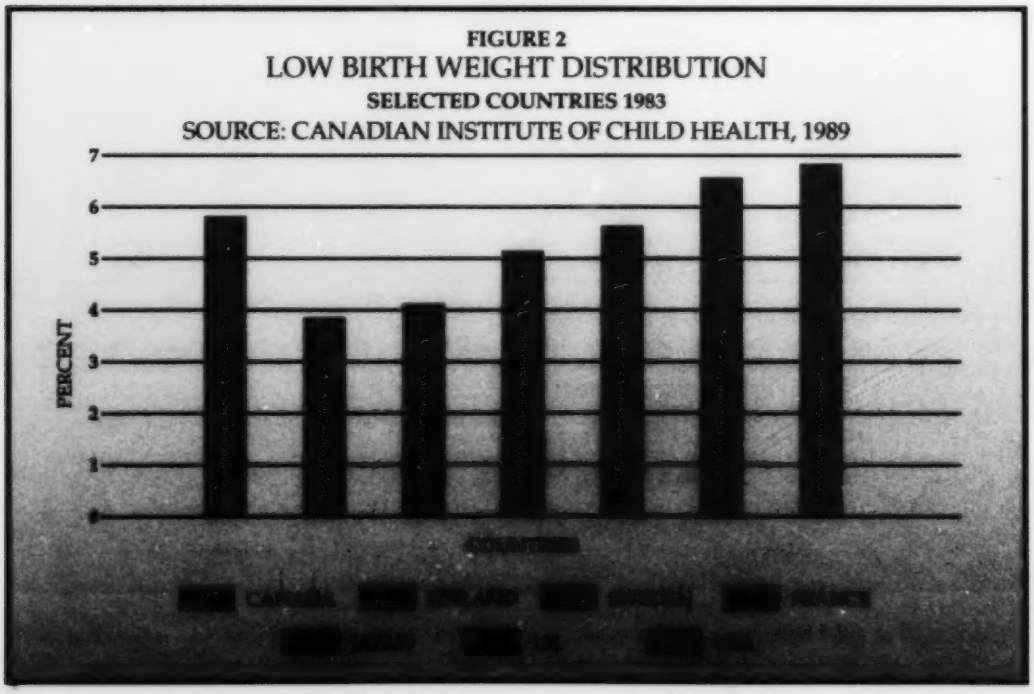
NEWBORNS OF LOW BIRTH WEIGHT

The best predictor of survival is the newborn's weight at birth (Canadian Institute of Child Health, 1989). Low birth weight infants are at increased risk for mortality, morbidity, developmental delays and chronic health problems. Low birth weight may result from a combination of factors in the pre-pregnant and prenatal environments. Some potential contributors to low birth weight are extremes in maternal age, inadequate prenatal care or prenatal education, poor nutrition before and during pregnancy, maternal smoking during pregnancy, drug or alcohol abuse during pregnancy, unfavorable socioeconomic conditions (low income, low education), and obstetric history. Low birth weight is the main risk factor associated with infant death (Canada's National Paper for the World Summit for Children, 1990). The effects from low birth weight can influence health status throughout the lifespan. As prevention of the incidence of low birth weight is one goal of perinatal health programs, the identification of the contributors to low birth weight is critical.

International Comparison

Since 1975, the proportion of low birth weight infants in Canada has remained at approximately 6 percent of live births. A comparison by the Canadian Institute of Child Health (1989) of low birth weight in selected countries indicated that Canada had a lower proportion of low birth weight than the United Kingdom and the United States, but a higher proportion than Nordic countries, France and Japan (Figure 2).

FIGURE 2
LOW BIRTH WEIGHT DISTRIBUTION
SELECTED COUNTRIES 1983
SOURCE: CANADIAN INSTITUTE OF CHILD HEALTH, 1989



Regional Comparison

The low birth weight rate for Manitoba during the data collection period was 51.0 per 1000 total births (5.1 percent). This compares favorably to rates in other provinces. Table 4 presents the proportion of births that were of low birth weight in Manitoba by region of residence. The proportion of low birth weight was highest in City of Winnipeg Health Region. Norman and Westman Regions were second and third highest respectively. Interlake Region had the lowest proportion of low birth infants.

TABLE 4
PROPORTION OF BIRTHS BY BIRTH WEIGHT AND REGION OF RESIDENCE
MANITOBA
JULY 1, 1987-DECEMBER 31, 1988

Region	Low Birth Weight Newborns*	
	Number	Percent
Winnipeg North	119	4.6
Winnipeg South	183	5.1
Winnipeg West Central	54	5.0
Westman	134	5.5
Eastman	73	4.1
Central	93	4.3
Interlake	49	3.7
Parklands	33	4.1
Norman	28	5.8
Thompson	52	4.1
City of Winnipeg	339	6.5
MANITOBA	**1157**	**5.1****

* ≤ 2500 grams at birth
** Excludes 842 newborns due to missing data on birth weight and 1,391 births due to missing postpartum referral forms

Low Birth Weight and Socioeconomic Status

Maternal educational level is often used as an indicator of socioeconomic status. The variable of maternal education is included on the **Postpartum Referral Form**. However, 75 percent of data on this variable were missing and are not reported. The Canadian Institute of Child Health (1989) reported that babies born to women with little education (less than 8 years) had a 30 percent higher rate of prematurity and were twice as likely to be growth retarded compared to babies born to mothers with post secondary education.

Low Birth Weight and Maternal Age

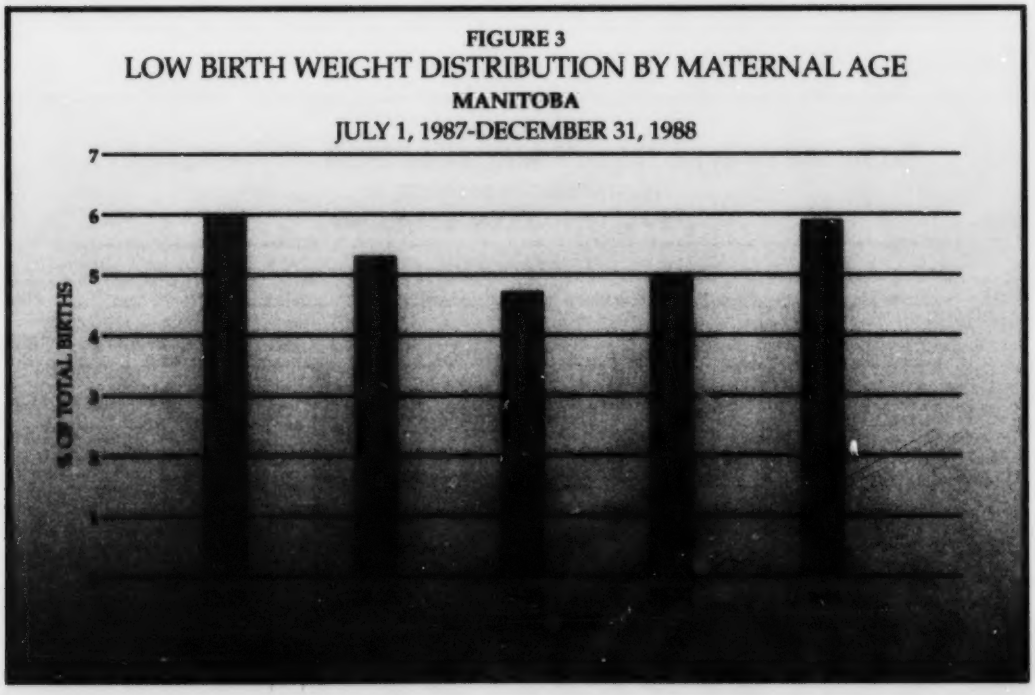
The relationship between maternal age and low birth weight can be confounded by a number of factors, such as poor maternal nutritional status, and low socioeconomic status. In general, the occurence of low birth weight usually follows a pattern, highest in young pregnant women, falling with increasing age to its lowest occurence between 25-29 years, and then increased again with increasing maternal age. As indicated in Figure 3, this pattern is consistent with Manitoba data. However, regional trends are evident. Figures 4 to 14 indicate a comparison between Manitoba data and regional data on birth weight distribution by maternal age.

FIGURE 3

LOW BIRTH WEIGHT DISTRIBUTION BY MATERNAL AGE

MANITOBA

JULY 1, 1987-DECEMBER 31, 1988



NOTE: Data for <15 age group is excluded due to small numbers. Excludes 842 newborns due to missing data on birth weight and 1,391 newborns due to missing postpartum referral forms.

FIGURE 4

LOW BIRTH WEIGHT DISTRIBUTION BY MATERNAL AGE

WINNIPEG NORTH REGION

JULY 1, 1987-DECEMBER 31, 1988

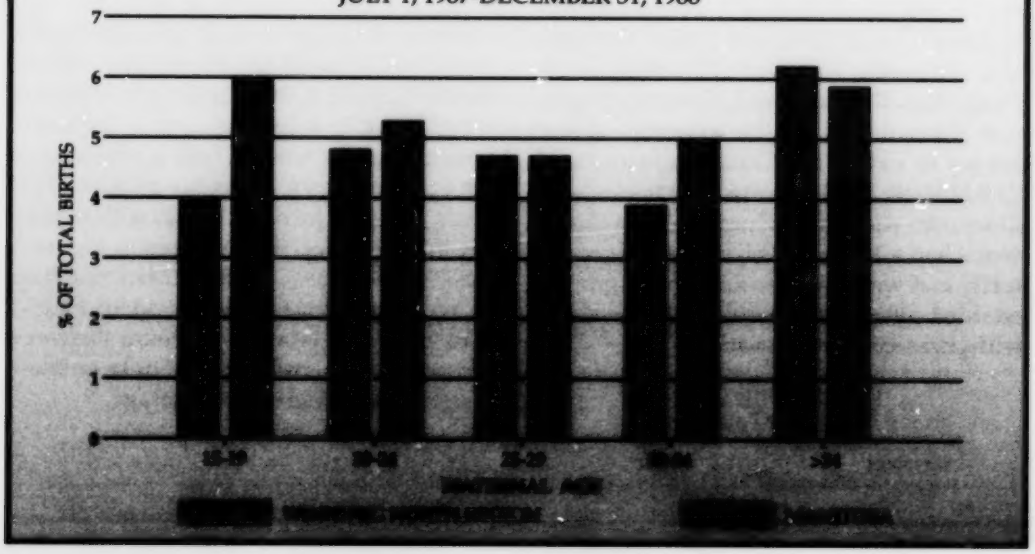


FIGURE 5

LOW BIRTH WEIGHT DISTRIBUTION BY MATERNAL AGE

WINNIPEG SOUTH REGION

JULY 1, 1987-DECEMBER 31, 1988

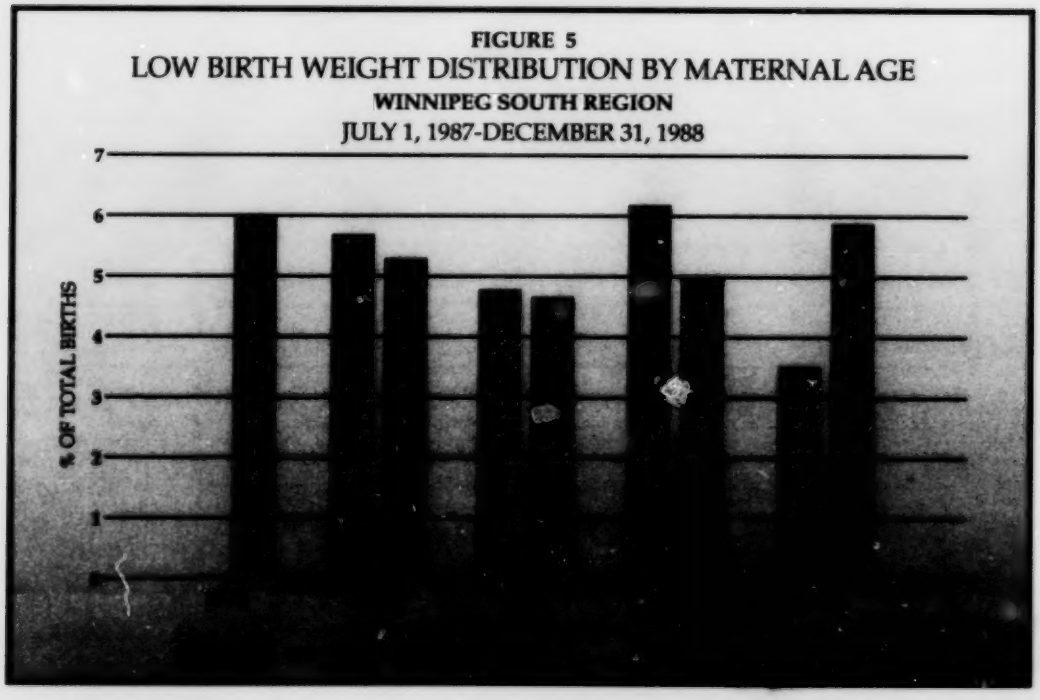


FIGURE 6

LOW BIRTH WEIGHT DISTRIBUTION BY MATERNAL AGE

WINNIPEG WEST CENTRAL REGION

JULY 1, 1987-DECEMBER 31, 1988

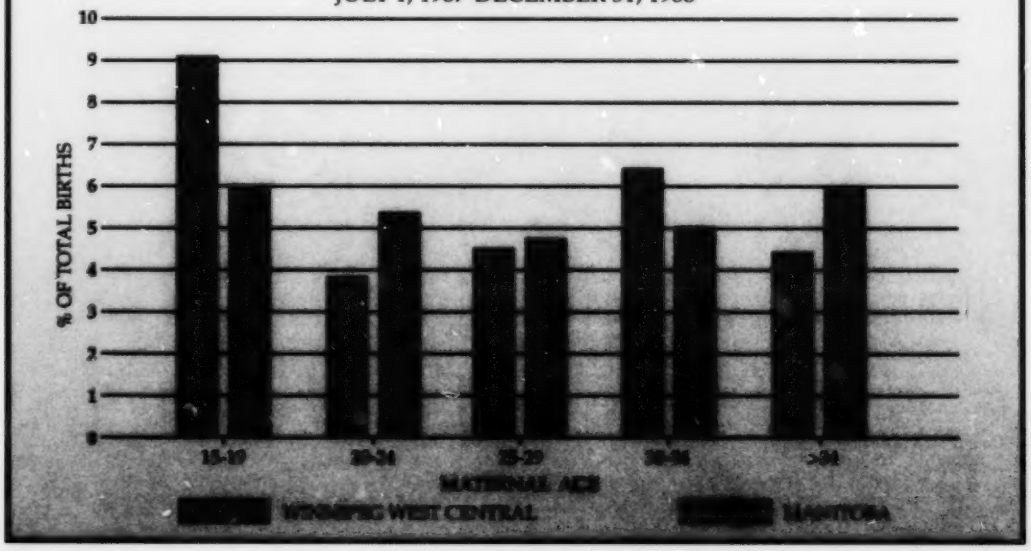


FIGURE 7

LOW BIRTH WEIGHT DISTRIBUTION BY MATERNAL AGE

WESTMAN REGION

JULY 1, 1987-DECEMBER 31, 1988

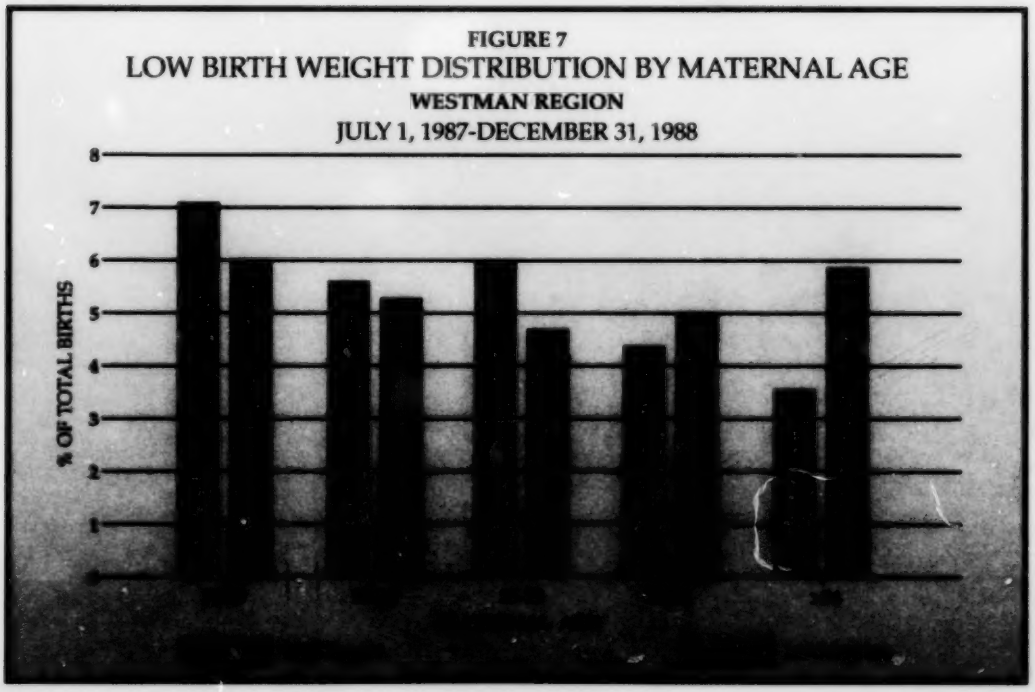


FIGURE 8

LOW BIRTH WEIGHT DISTRIBUTION BY MATERNAL AGE

EASTMAN REGION

JULY 1, 1987-DECEMBER 31, 1988

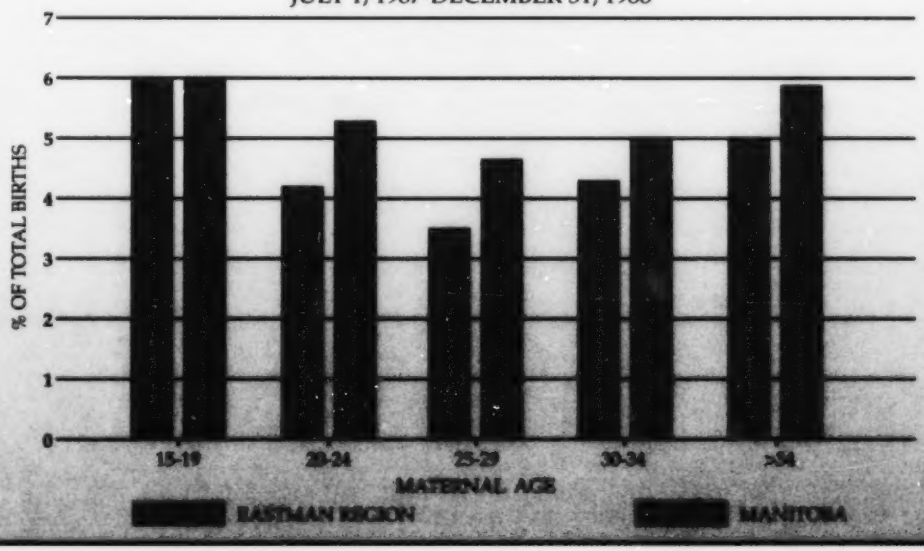


FIGURE 9

LOW BIRTH WEIGHT DISTRIBUTION BY MATERNAL AGE

CENTRAL REGION

JULY 1, 1987-DECEMBER 31, 1988

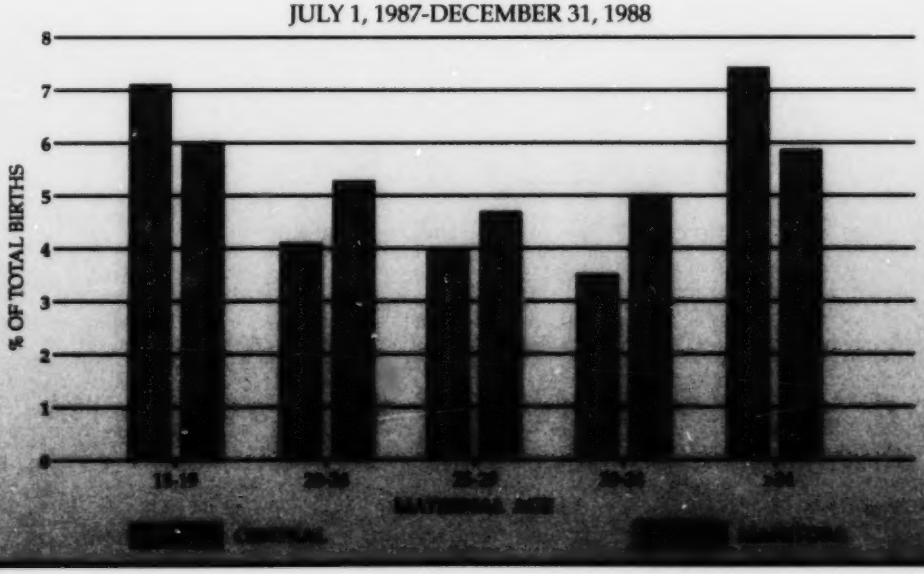


FIGURE 10

LOW BIRTH WEIGHT DISTRIBUTION BY MATERNAL AGE

INTERLAKE REGION

JULY 1, 1987-DECEMBER 31, 1988

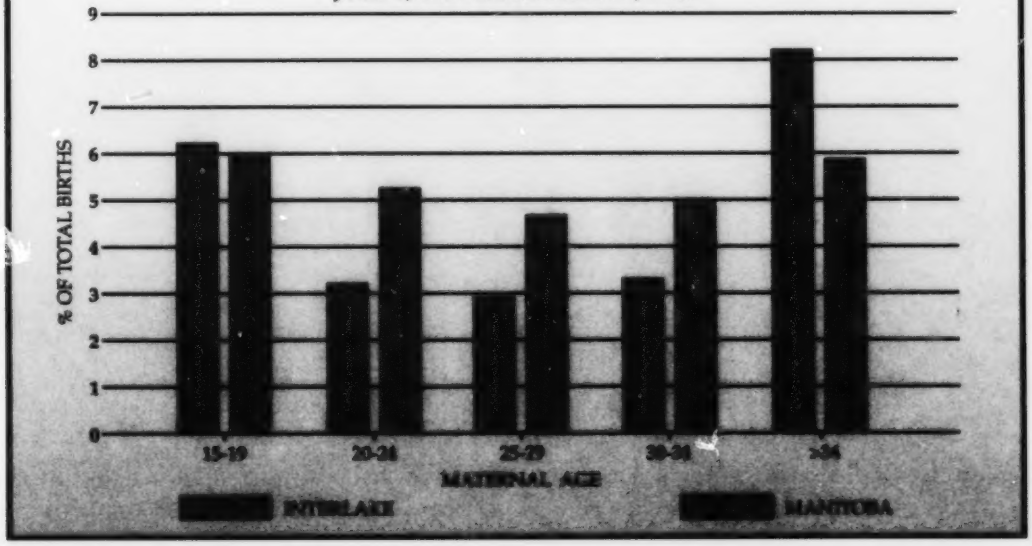


FIGURE 11

LOW BIRTH WEIGHT DISTRIBUTION BY MATERNAL AGE

PARKLANDS REGION

JULY 1, 1987-DECEMBER 31, 1988

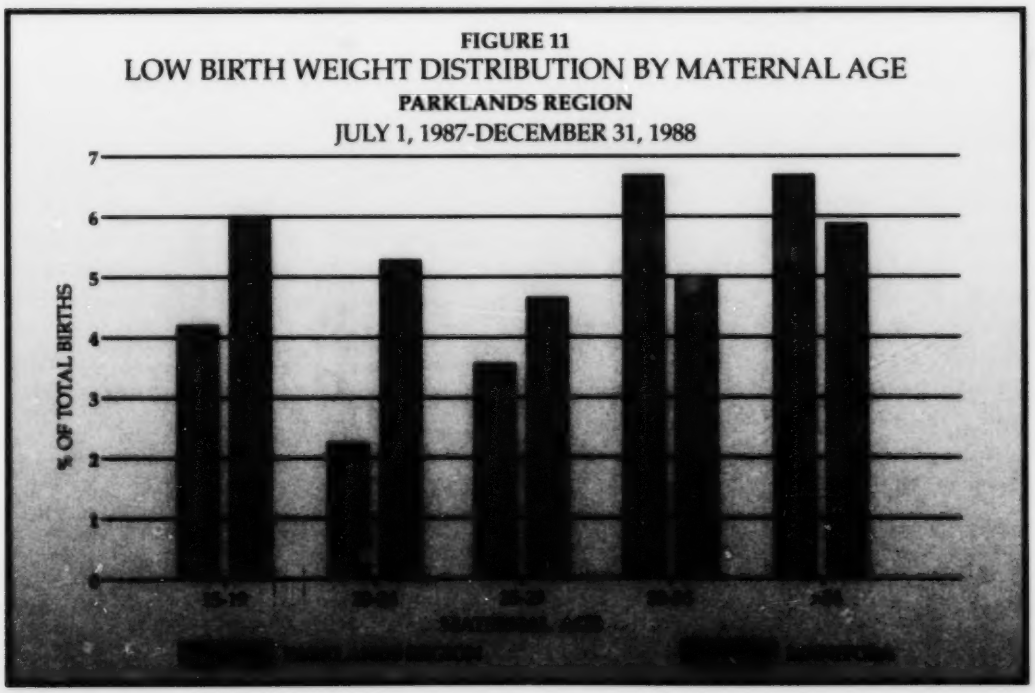


FIGURE 12

LOW BIRTH WEIGHT DISTRIBUTION BY MATERNAL AGE

NORMAN REGION

JULY 1, 1987-DECEMBER 31, 1988

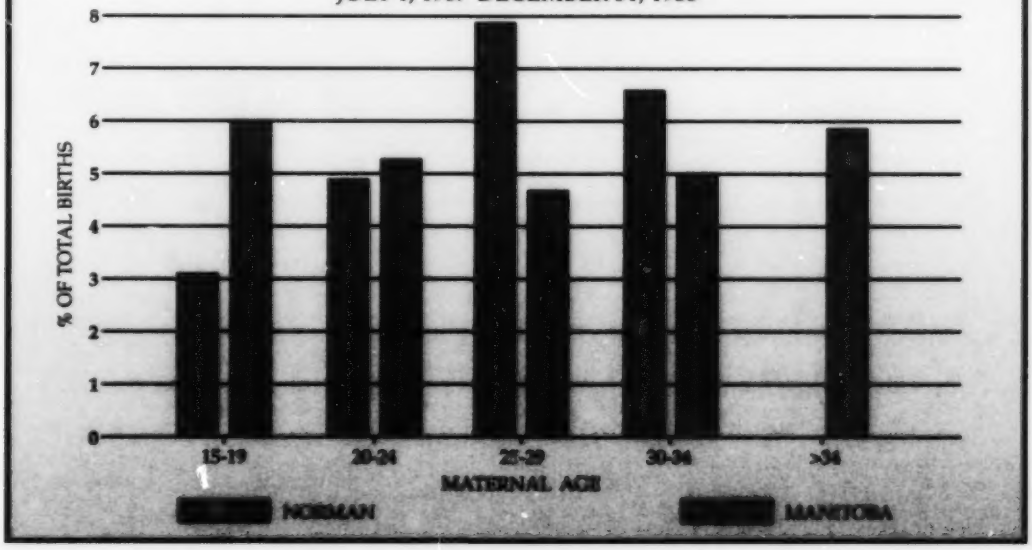


FIGURE 13

LOW BIRTH WEIGHT DISTRIBUTION BY MATERNAL AGE

THOMPSON REGION

JULY 1, 1987-DECEMBER 31, 1988

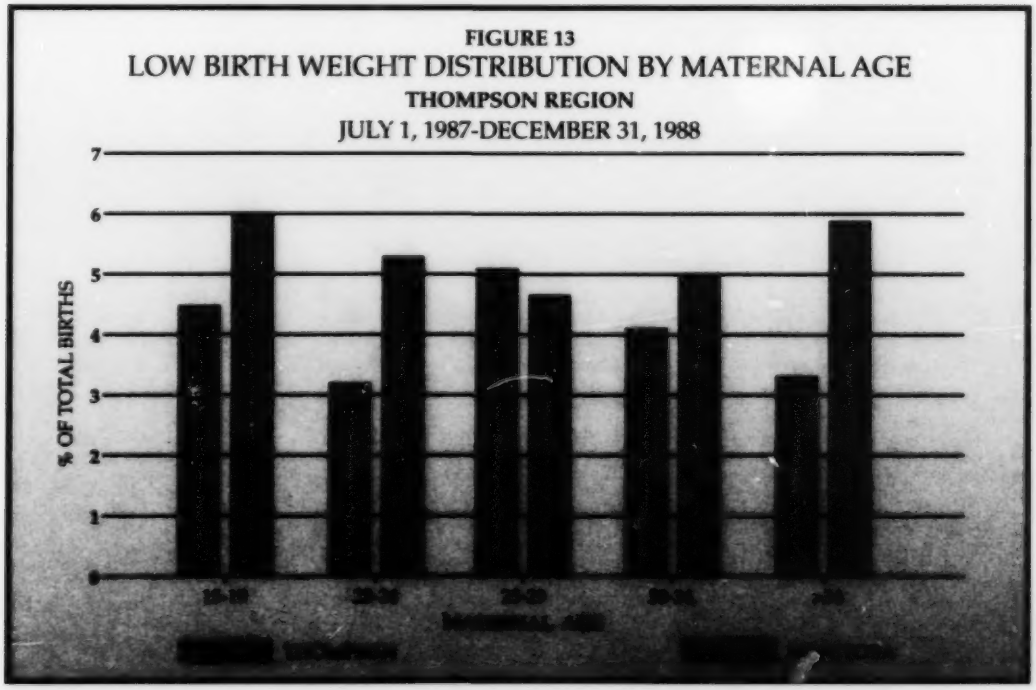
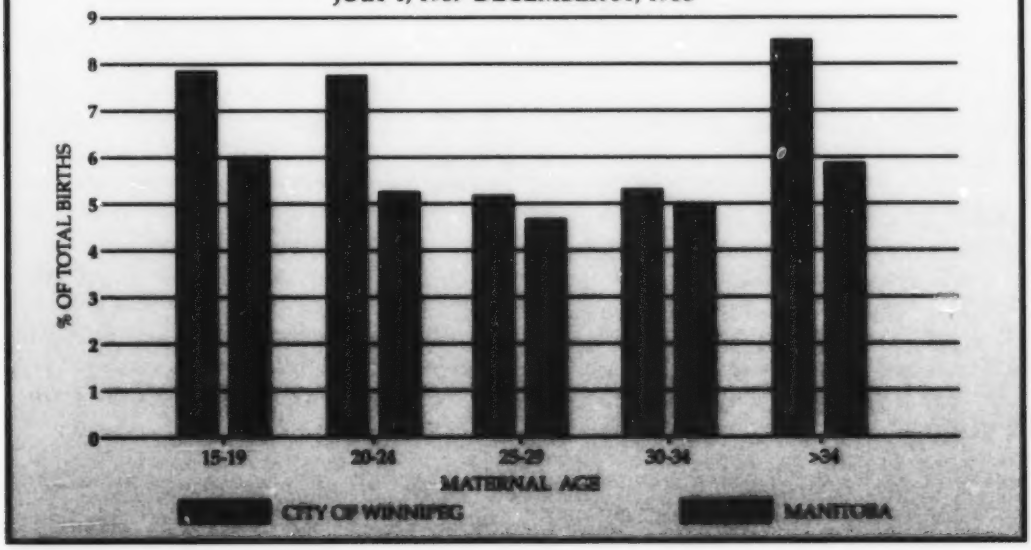


FIGURE 14
LOW BIRTH WEIGHT DISTRIBUTION BY MATERNAL AGE
CITY OF WINNIPEG HEALTH
JULY 1, 1987-DECEMBER 31, 1988



Low Birth Weight and Prenatal Care/Prenatal Education

Approximately 88 percent of women in the data set received prenatal care, defined as three or more prenatal visits. The **Postpartum Referral Form** does not include information when care began during pregnancy and the nature of prenatal care. Therefore, data on receipt of prenatal care were not compared to data on low birth weight.

The variable 'prenatal education' refers to whether or not a woman had been registered for prenatal classes during her current pregnancy. Approximately 34 percent of women had registered for prenatal classes. One to one education is not included in the variable definition. Thirty eight percent of data on location of prenatal classes were missing. Of the available 62 percent of data, women registered for prenatal classes at the following locations: community health – 31 percent; hospital – 25 percent; and private – 6 percent. Data on registration for prenatal classes were not compared to data on low birth weight.

Low Birth Weight and Maternal Smoking

Approximately 30 percent of Manitoba women who were referred during the data collection period smoked during their pregnancy. The risks of smoking during pregnancy include spontaneous abortion, interuterine growth restriction, and reduced birth weight.

Table 5 presents regional data on percentage of newborns exposed to maternal smoking in utero. There was significant regional variation in exposure. For example, in Thompson Region, 54 percent of newborns had mothers who smoked during their pregnancy compared to 22 percent in Winnipeg South Region.

The **Postpartum Referral Form** does not include data on amount smoked, duration of smoking during pregnancy, and whether the woman was a regular smoker who quit during pregnancy.

Figures 15 to 25 present a regional comparison between the proportion of low birth weight infants and infants with birth weight of greater than 2500 grams who were exposed to maternal smoking in utero. Although there is regional variation, there is a tendency for women who smoked during pregnancy to have a higher risk of delivering a low birth weight infant. However, smoking may be only one factor in the woman's environment contributing to low birth weight. Other factors, such as socioeconomic status, may play a larger role.

TABLE 5

NEWBORN EXPOSURE TO MATERNAL SMOKE DURING PREGNANCY BY REGION OF RESIDENCE

MANITOBA

JULY 1, 1987-DECEMBER 31, 1988

Region	Percentage of Newborns Exposed
Winnipeg North	26
Winnipeg South	22
Winnipeg West Central	26
Westman	29
Eastman	26
Central	23
Interlake	30
Parklands	35
Norman	31
Thompson	54
City of Winnipeg	34
MANITOBA	**30***

* Excludes 1 newborn due to missing data on maternal smoking habits, and 1,391 births due to missing postpartum referral forms.

FIGURE 15

BIRTH WEIGHT AND MATERNAL SMOKING

WINNIPEG NORTH REGION

JULY 1, 1987-DECEMBER 31, 1988

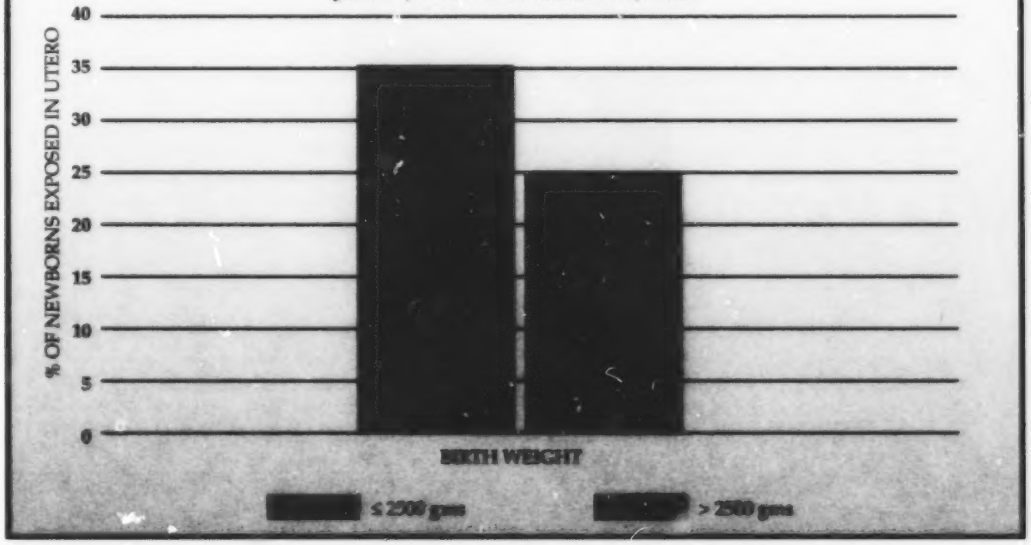


FIGURE 16

BIRTH WEIGHT AND MATERNAL SMOKING

WINNIPEG SOUTH REGION

JULY 1, 1987-DECEMBER 31, 1988

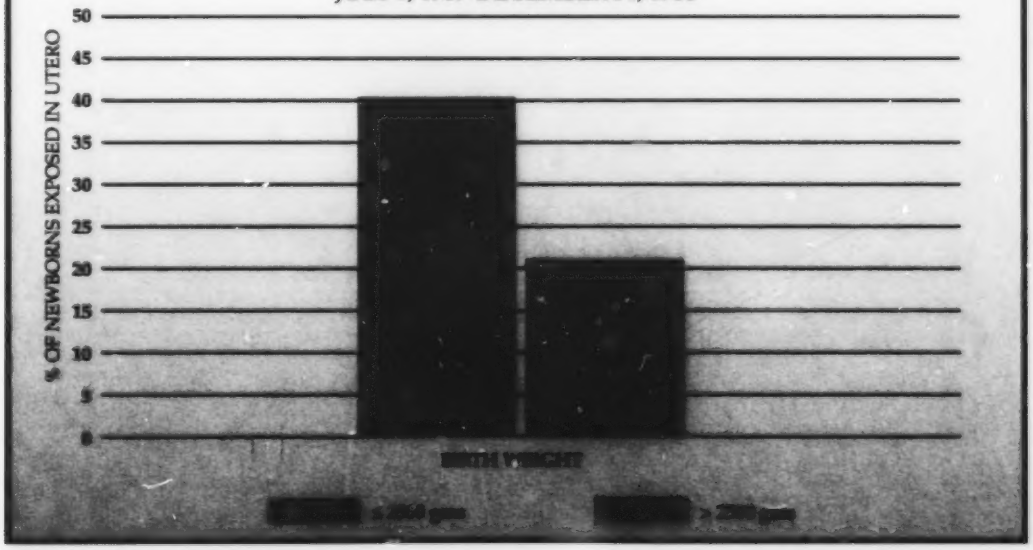


FIGURE 17
BIRTH WEIGHT AND MATERNAL SMOKING
WINNIPEG WEST CENTRAL REGION
JULY 1, 1987-DECEMBER 31, 1988

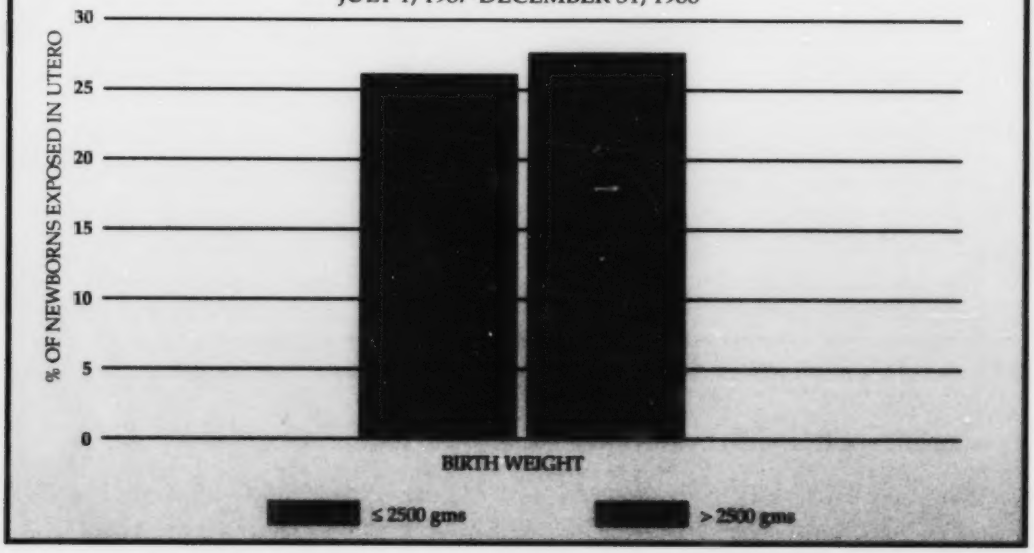


FIGURE 18
BIRTH WEIGHT AND MATERNAL SMOKING
WESTMAN REGION
JULY 1, 1987-DECEMBER 31, 1988

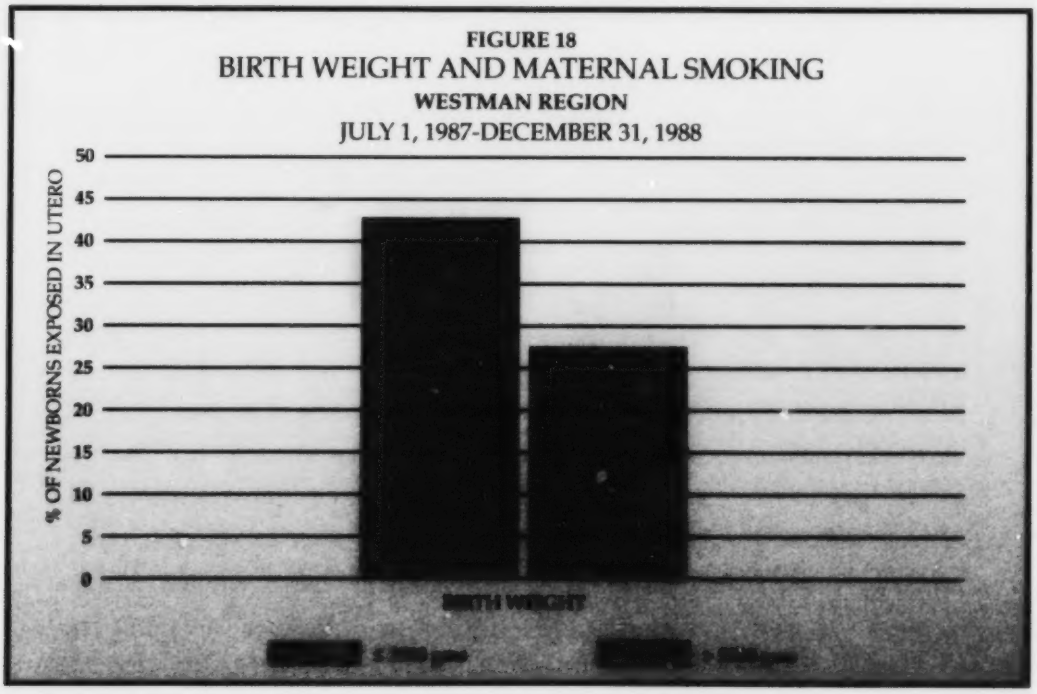


FIGURE 19
BIRTH WEIGHT AND MATERNAL SMOKING
EASTMAN REGION
JULY 1, 1987-DECEMBER 31, 1988

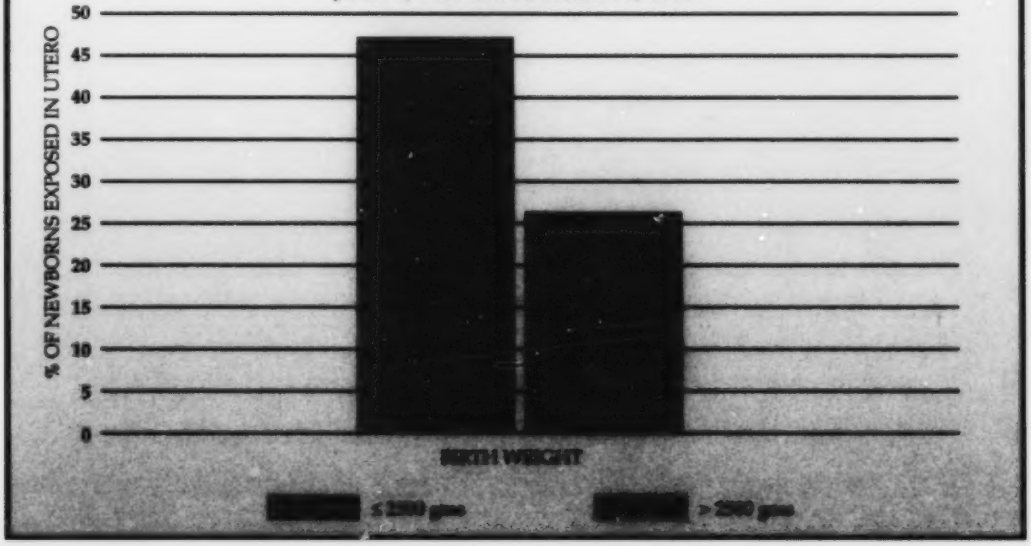


FIGURE 20
BIRTH WEIGHT AND MATERNAL SMOKING
CENTRAL REGION
JULY 1, 1987-DECEMBER 31, 1988

FIGURE 21
BIRTH WEIGHT AND MATERNAL SMOKING
INTERLAKE REGION
JULY 1, 1987-DECEMBER 31, 1988

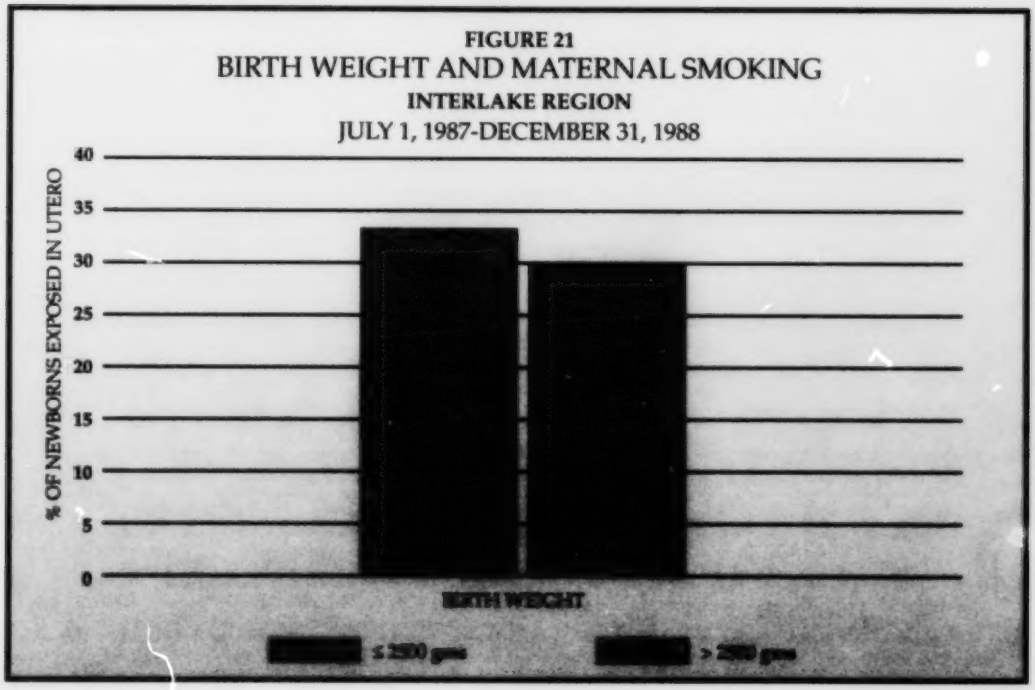


FIGURE 22
BIRTH WEIGHT AND MATERNAL SMOKING
PARKLANDS REGION
JULY 1, 1987-DECEMBER 31, 1988

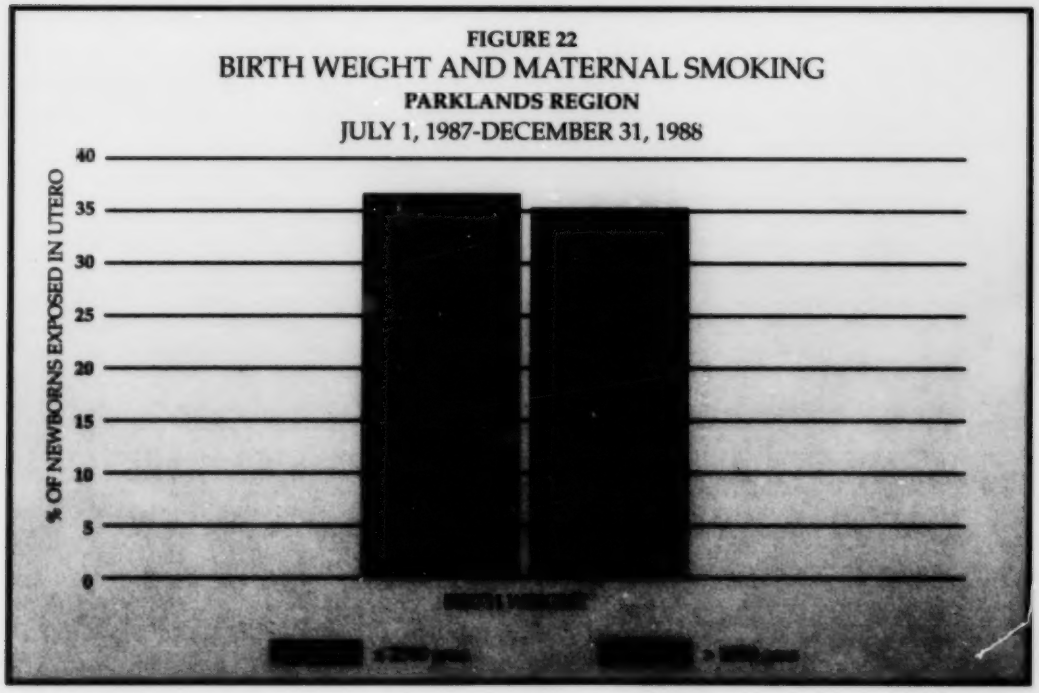


FIGURE 23

BIRTH WEIGHT AND MATERNAL SMOKING

NORMAN REGION

JULY 1, 1987-DECEMBER 31, 1988

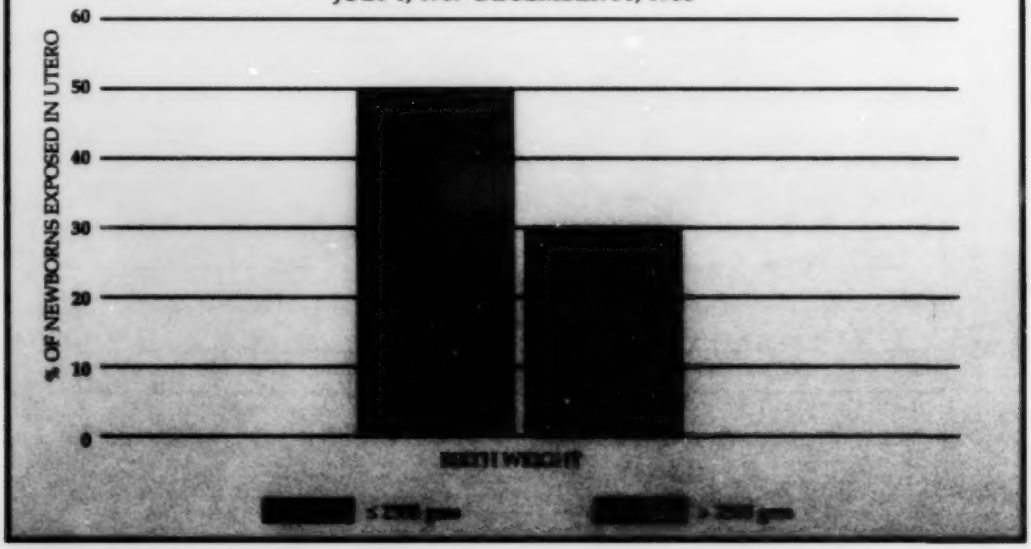


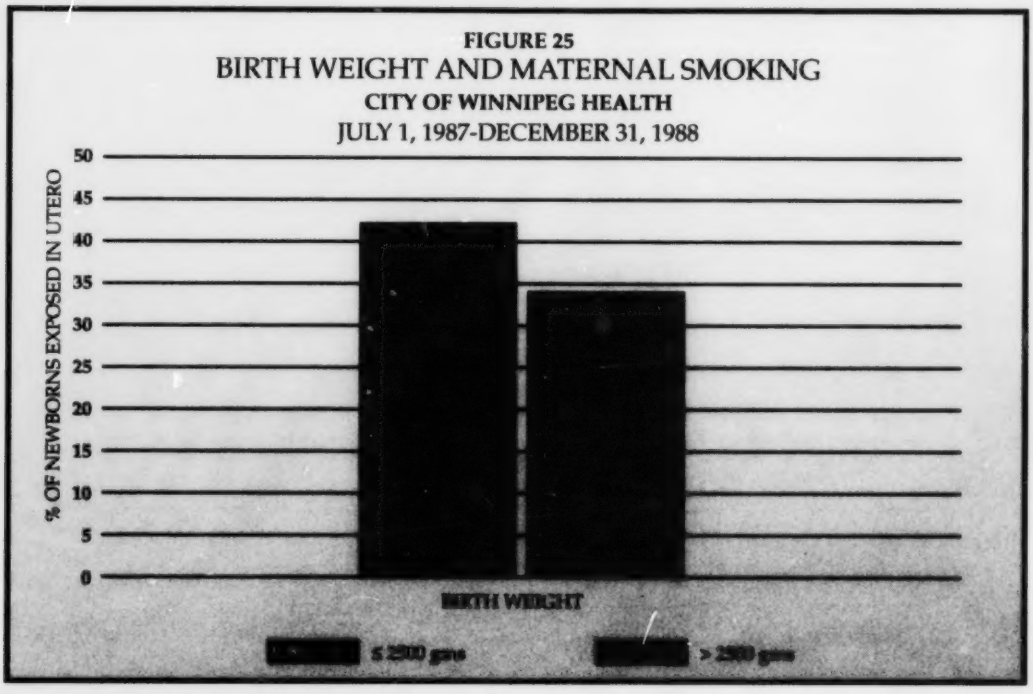
FIGURE 24

BIRTH WEIGHT AND MATERNAL SMOKING

THOMPSON REGION

JULY 1, 1987-DECEMBER 31, 1988

FIGURE 25
BIRTH WEIGHT AND MATERNAL SMOKING
CITY OF WINNIPEG HEALTH
JULY 1, 1987-DECEMBER 31, 1988



Low Birth Weight and Other Risk Factors

First and High Order Births

Data on gravidy and parity were determined to be inaccurate and are not reported. The section of the **Postpartum Referral Form** pertinent to this data is confusing (states antepartum; postpartum data desired). In addition, inputting these data was problematic and inconsistent.

Drug and Alcohol Use

Drug and alcohol use during pregnancy contributes to low birth weight. Currently, information on drug and alcohol use in the preconception and prenatal periods is not collected on the **Postpartum Referral Form.**

Obstetrical History

The variable of obstetrical complications is included on the **Postpartum Referral Form** primarily for purposes of service delivery. The computer program does not currently have the capacity to input the nature of each complication, and therefore, these data are not reported.

DELIVERY TYPE

During the period of data collection, 85 percent of newborns in Manitoba were delivered vaginally, and 15 percent of newborns were delivered by caesarean section. Although figures are based on total births rather than total deliveries, the percentages of each delivery type are consistent with Manitoba data in Table 28, Manitoba Health Services Commission Obstetrical Survey, 1988-1989.

Data on delivery type by hospital of delivery are available from the Manitoba Health Services Commission. Table 6 presents data on delivery type by region of maternal residence. The **Postpartum Referral Form** does not differentiate between information on first time caesarean, repeat caesarean, or vaginal birth after caesarean (VBAC).

TABLE 6
DELIVERY TYPE BY REGION OF RESIDENCE
MANITOBA
JULY 1, 1987-DECEMBER 31, 1988

Region	Total Births	Number of Forms Missing Data	Percent of Vaginal Deliveries	Percent of Caesarean Deliveries
Winnipeg North	2650	227	83	17
Winnipeg South	3728	248	84	16
Winnipeg West Central	1119	120	84	16
Westman	2536	236	84	16
Eastman	1853	87	86	14
Central	2241	100	87	13
Interlake	1379	55	86	14
Parklands	824	34	82	18
Norman	503	14	81	19
Thompson	1334	31	88	12
City of Winnipeg	5446	322	84	16
MANITOBA*	**23,613**	**1474**	**85**	**15**

* Excludes 1,391 births due to missing postpartum referral forms.

BREASTFEEDING

Human milk is the ideal food for most infants. Between 1963 and 1982, the Canadian rates of breastfeeding at time of discharge rose from 38 percent to 75 percent (McNalley, Hendricks, & Horowitz, 1985). In 1982, the percentage of women breastfeeding at discharge was estimated to be 76 percent in Manitoba/Saskatchewan combined (McNalley, et al., 1985). Fifty four percent of women continued to breastfeed for at least six months (McNalley et al., 1985).

The **Postpartum Referral Form** is designed to collect information on type (breast/formula/both) and mode (breast/bottle/both/other) of infant feeding at time of maternal discharge. In this report, only data on type of feeding are presented, as this refers to breastmilk fed, regardless of the mode of feeding. In addition, data on newborns who were solely fed breastmilk and those who were supplemented ("both") are combined.

During the data collection period, 73 percent of Manitoba newborns were fed breastmilk at the time of their mother's discharge from hospital. Current data on duration of breastfeeding in Manitoba are not available. Data from the **Postpartum Referral Form** were analyzed according to region of maternal residence, maternal age, and hospital of delivery.

Breastfeeding and Region of Residence

Table 7 presents data on percent of newborns fed breastmilk at time of maternal discharge by region of residence. The highest percentage of newborns fed breastmilk at time of maternal discharge was in Winnipeg South Region (81 percent), and the lowest percentage was in Thompson Region (58 percent).

TABLE 7

NEWBORNS FED BREASTMILK AT MATERNAL DISCHARGE BY REGION OF RESIDENCE

MANITOBA

JULY 1, 1987-DECEMBER 31, 1988

Region	Breastmilk	Both*	Missing Data or Not Applicable	Percent of newborns fed breastmilk at maternal discharge
Winnipeg North	1891	88	77	77
Winnipeg South	2824	97	130	81
Winnipeg West Central	794	830	50	77
Westman	1608	76	162	71
Eastman	1282	82	98	78
Central	1652	50	95	79
Interlake	860	63	70	71
Parklands	507	12	31	65
Norman	250	49	26	63
Thompson	585	71	204	58
City of Winnipeg	3332	186	251	68
MANITOBA	**15,585**	**804**	**1194**	**73**

* Fed breastmilk and formula.

Breastfeeding and Maternal Age

In general, the number of women breastfeeding increased with maternal age (Figure 26). Figures 27 to 37 present regional variation in percentage of newborns fed breastmilk at time of maternal discharge by maternal age.

FIGURE 26

NEW BORNS FED BREASTMILK BY MATERNAL AGE

MANITOBA

JULY 1, 1987-DECEMBER 31, 1988

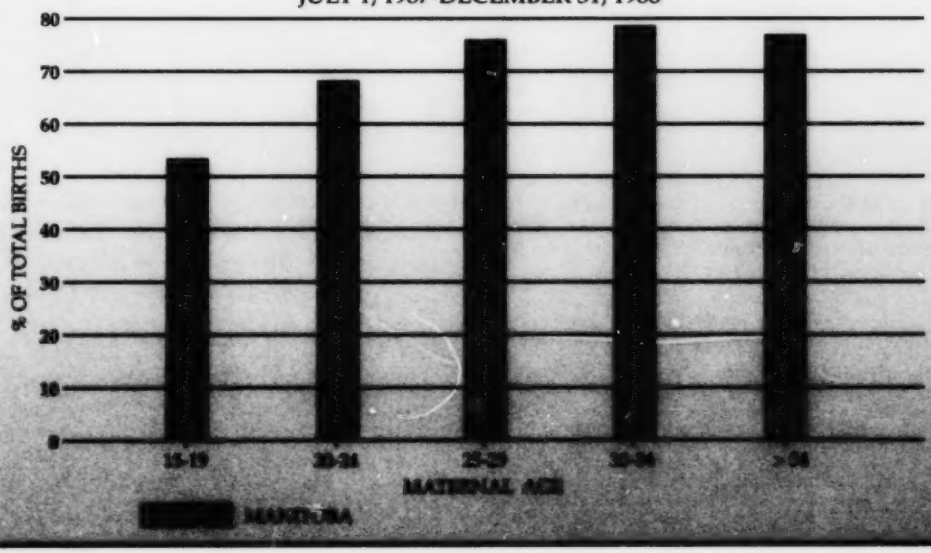


FIGURE 27

NEWBORNS FED BREASTMILK BY MATERNAL AGE

WINNIPEG NORTH REGION

JULY 1, 1987-DECEMBER 31, 1988

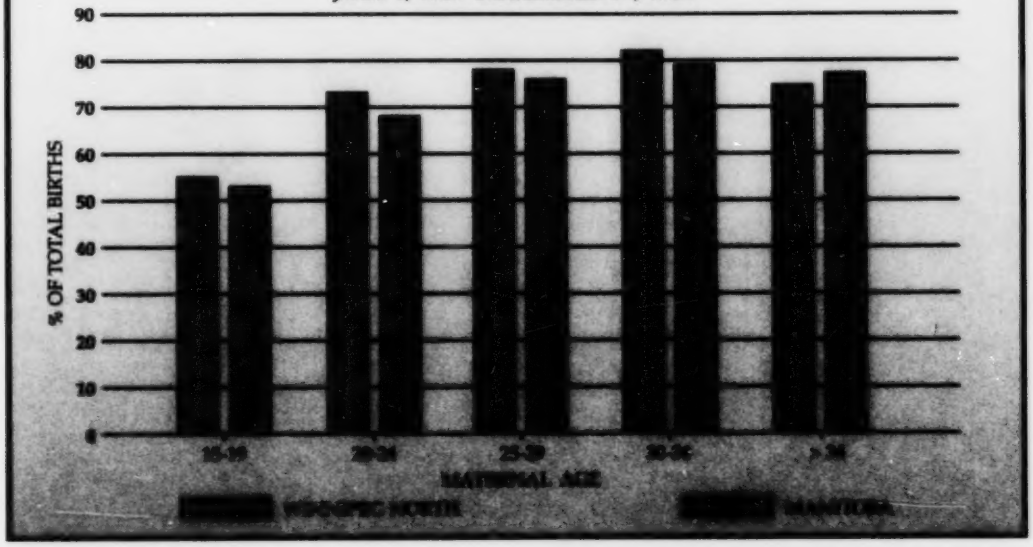


FIGURE 28

NEWBORNS FED BREASTMILK BY MATERNAL AGE

WINNIPEG SOUTH REGION

JULY 1, 1987-DECEMBER 31, 1988

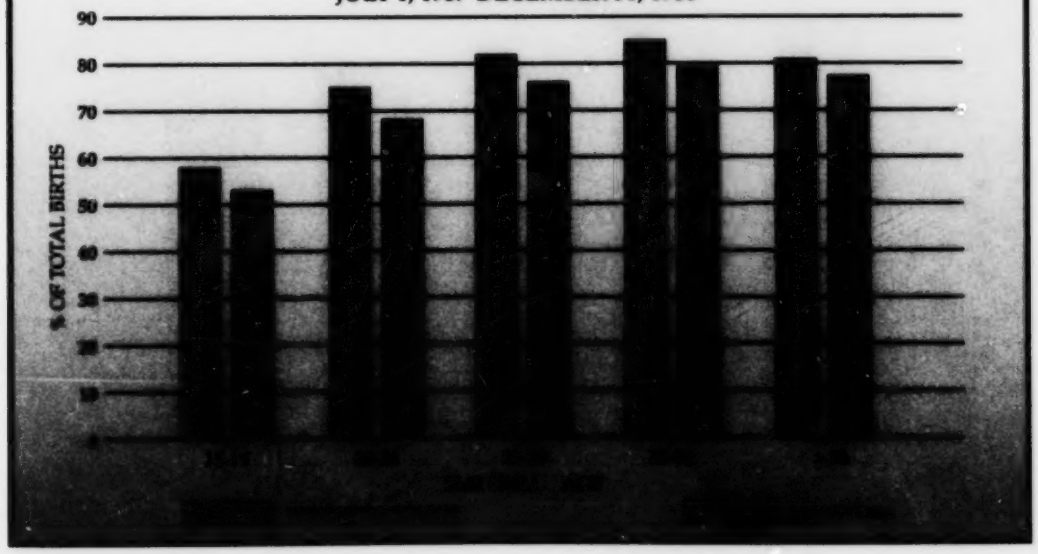


FIGURE 29

NEWBORNS FED BREASTMILK BY MATERNAL AGE

WINNIPEG WEST CENTRAL REGION

JULY 1, 1987-DECEMBER 31, 1988

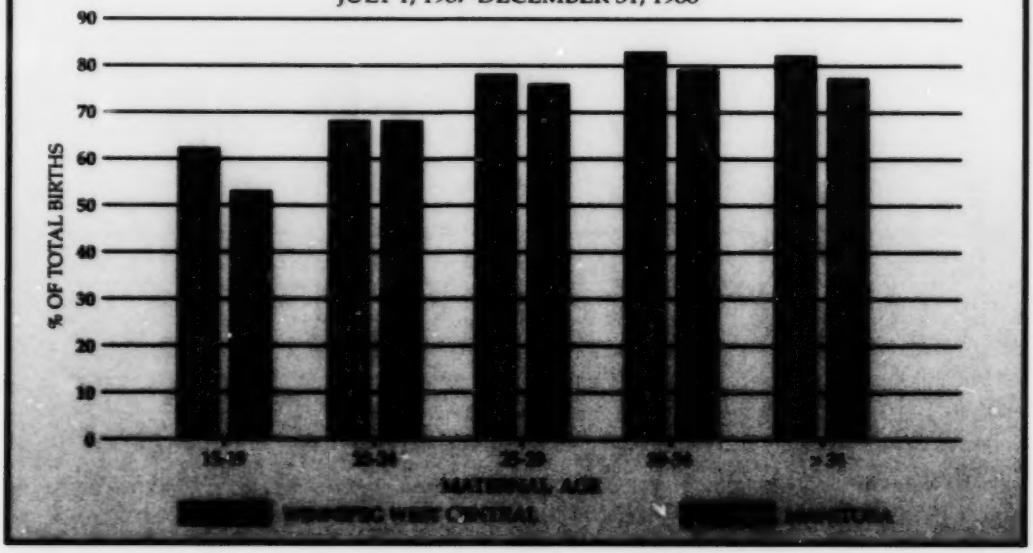


FIGURE 30

NEWBORNS FED BREASTMILK BY MATERNAL AGE

WESTMAN REGION

JULY 1, 1987-DECEMBER 31, 1988

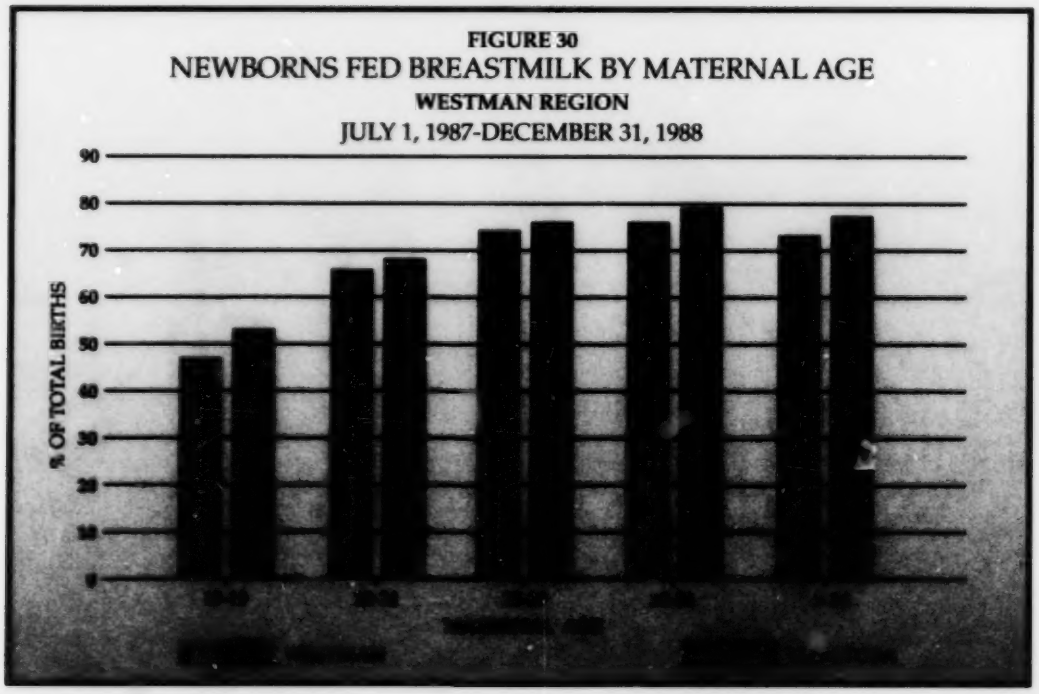


FIGURE 31

NEWBORNS FED BREASTMILK BY MATERNAL AGE

EASTMAN REGION

JULY 1, 1987-DECEMBER 31, 1988

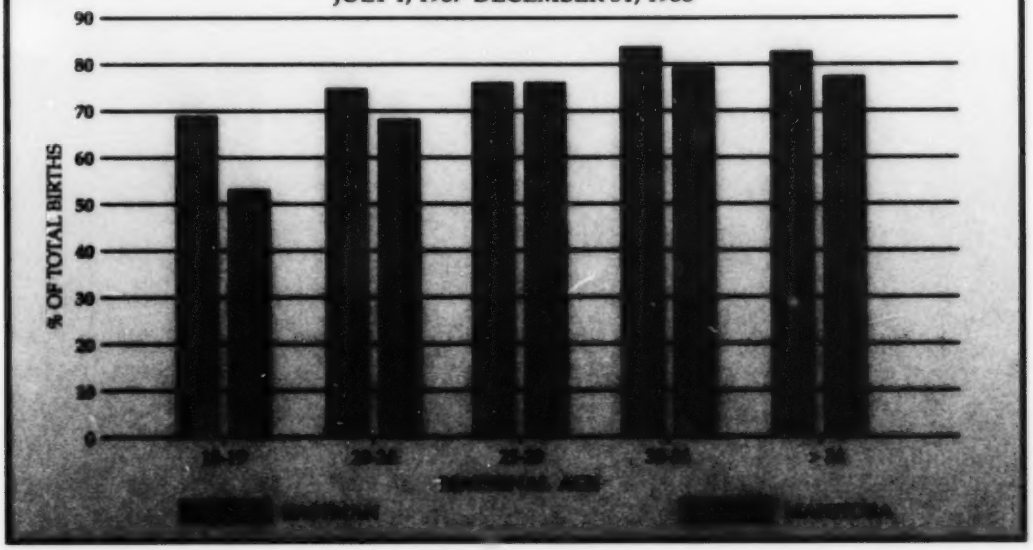


FIGURE 32

NEWBORNS FED BREASTMILK BY MATERNAL AGE

CENTRAL REGION

JULY 1, 1987-DECEMBER 31, 1988

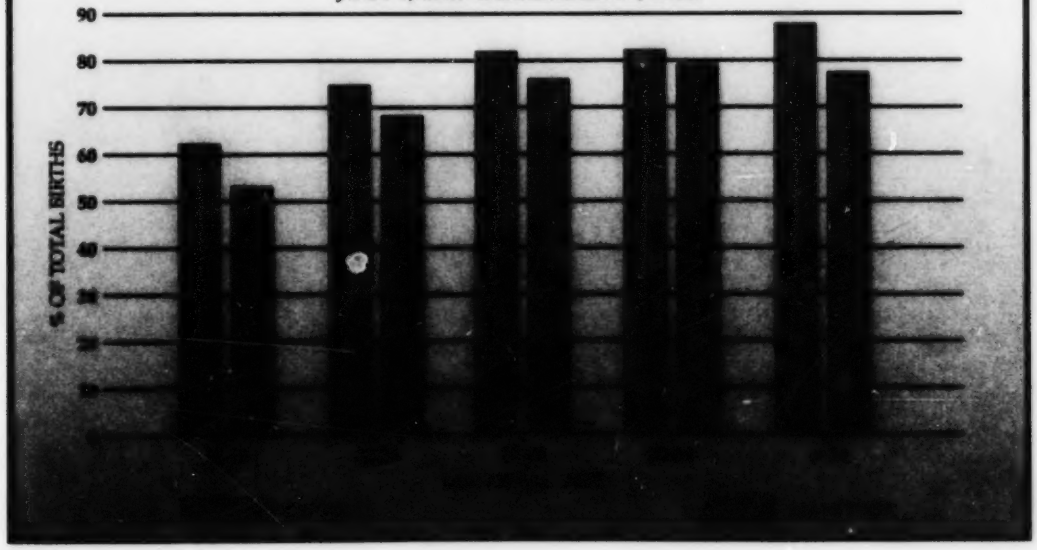


FIGURE 33

NEWBORNS FED BREASTMILK BY MATERNAL AGE

INTERLAKE REGION

JULY 1, 1987-DECEMBER 31, 1988

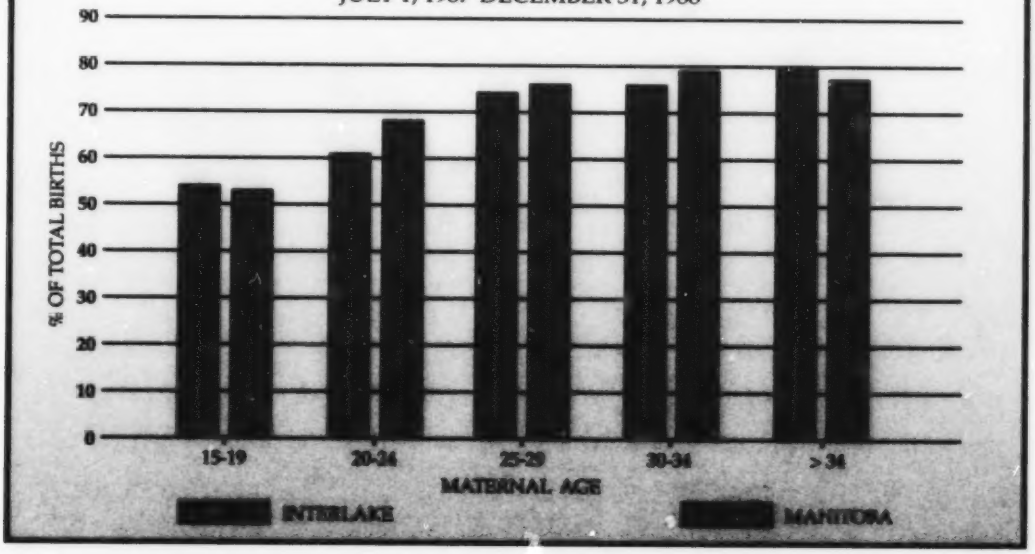


FIGURE 34

NEWBORNS FED BREASTMILK BY MATERNAL AGE

PARKLANDS REGION

JULY 1, 1987-DECEMBER 31, 1988

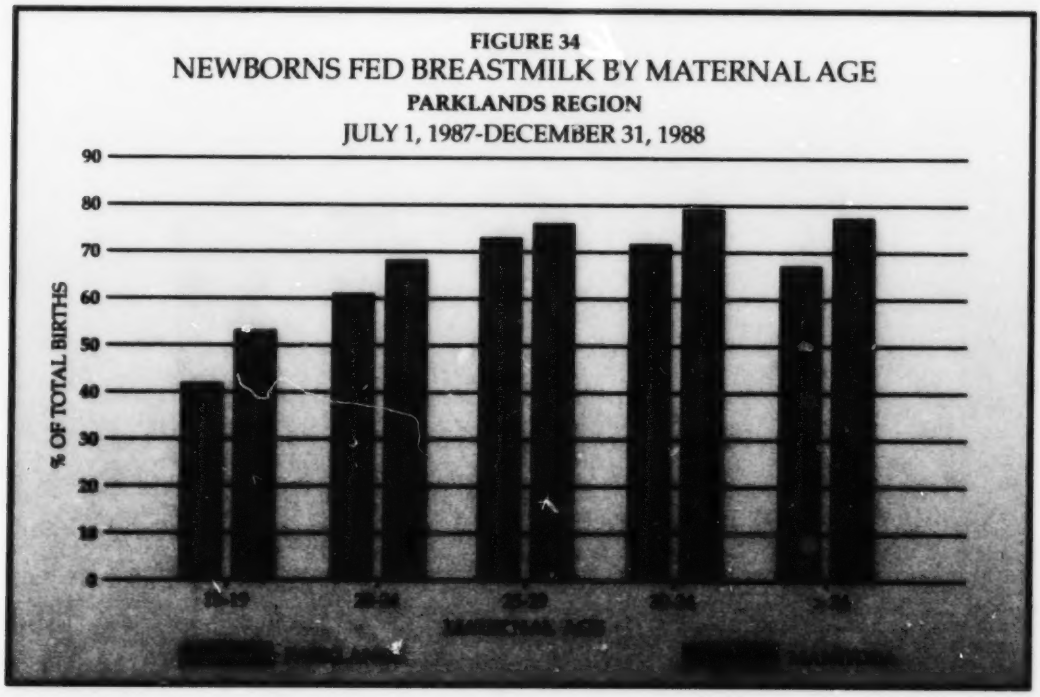


FIGURE 35

NEWBORNS FED BREASTMILK BY MATERNAL AGE

NORMAN REGION

JULY 1, 1987-DECEMBER 31, 1988

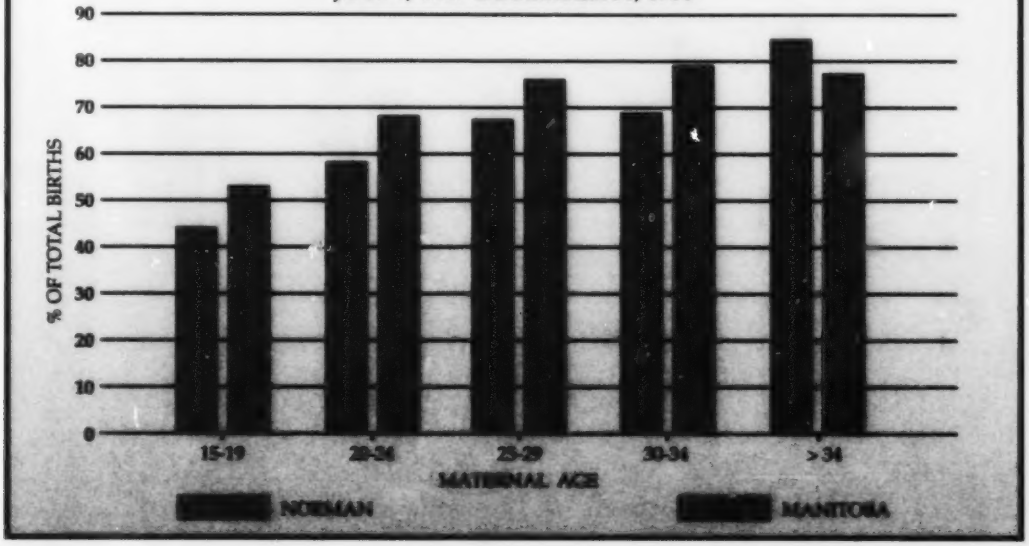


FIGURE 36

NEWBORNS FED BREASTMILK BY MATERNAL AGE

THOMPSON REGION

JULY 1, 1987-DECEMBER 31, 1988

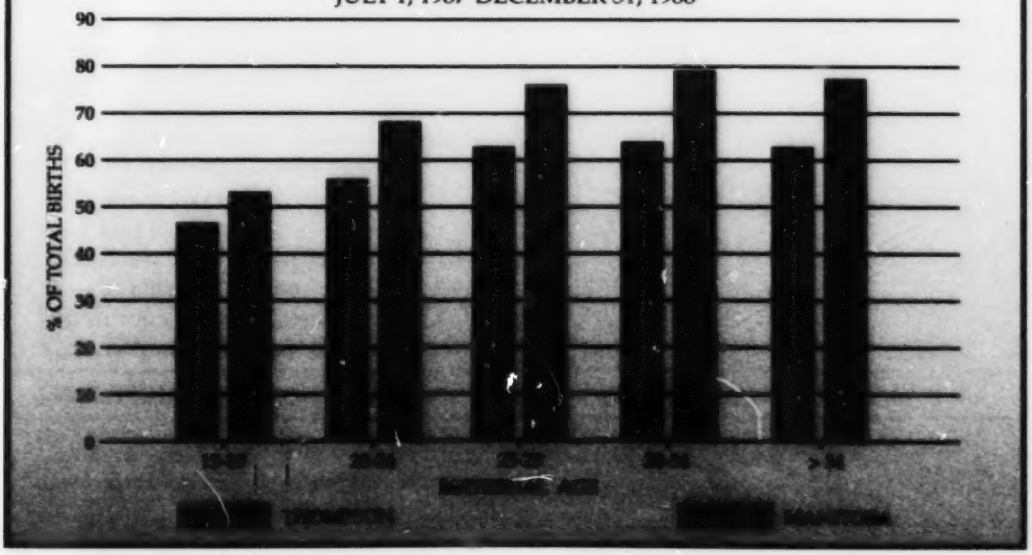
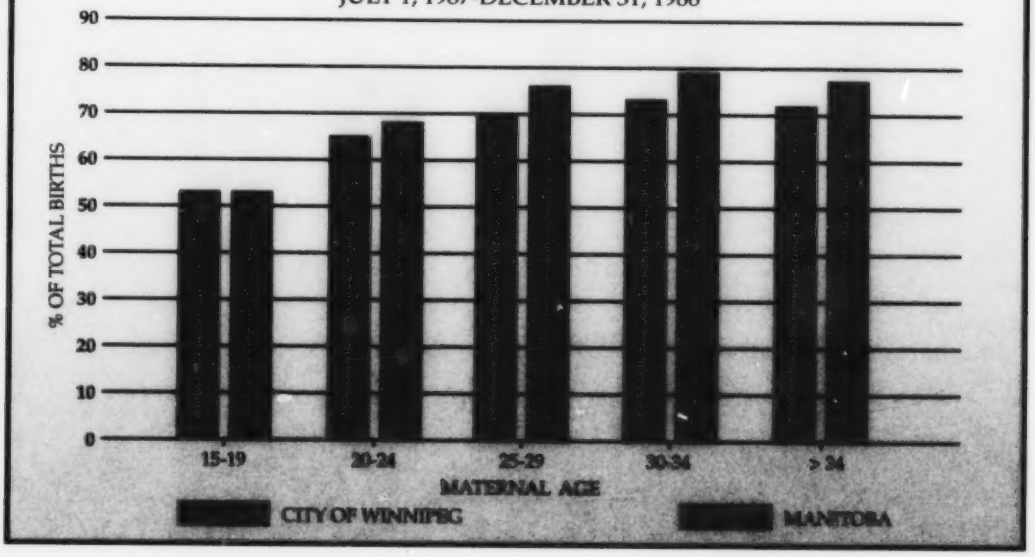


FIGURE 37

NEWBORNS FED BREASTMILK BY MATERNAL AGE

CITY OF WINNIPEG HEALTH

JULY 1, 1987-DECEMBER 31, 1988



Breastfeeding and Hospital of Delivery

Table 8 presents data on the percentage of women feeding their newborns breastmilk at time of maternal discharge, by hospital of delivery. The proportion of newborns fed breastmilk at maternal discharge ranged across hospitals from 56 percent to 90 percent.

TABLE 8

NEWBORNS FED BREASTMILK AT MATERNAL DISCHARGE BY HOSPITAL* OF DELIVERY

MANITOBA

JULY 1, 1987-DECEMBER 31, 1988

Hospital	Percent of newborns fed breastmilk at maternal discharge**
Altona Community Memorial H.C.	89
Arborg & Districts H.C.	74
Bethel Hospital	90
Bethesda Hospital	83
Brandon General Hospital	70
Carman Memorial Hospital	72
Dauphin General Hospital	70
Flin Flon General Hospital	80
Health Sciences Centre	68
Killarney & District Hospital	79
Misericordia General Hospital	70
Morden District Hospital	87
Neepawa Hospital District #9	79
Portage District General Hospital	77
Russell District Hospital	65
Salvation Army Grace General Hospital	78
Selkirk & District General Hospital	65
St. Boniface General Hospital	77
Ste. Anne Hospital	79
Swan River Valley Hospital	70
The Pas Health Complex	56
Thompson General Hospital	56
Victoria General Hospital	81
MANITOBA	**73**

* Excludes hospitals with <80 births according to completed postpartum referral forms received

** Based on completed postpartum referral forms

Appendix C lists data on newborns fed breastmilk at time of maternal discharge for every hospital in Manitoba. Appendix D lists data on newborns fed breastmilk at time of maternal discharge for each Manitoba Health Region and City of Winnipeg Health, by hospital of delivery.

Breastfeeding and Low Birth Weight

Special attention must be paid to the physical and psychosocial needs of low birth weight infants. During the period of data collection, an average of 68 percent of low birth weight infants in Manitoba were fed breastmilk at the time of their mothers' discharge from hospital. Table 9 indicates regional variations.

TABLE 9
LOW BIRTH WEIGHT NEWBORNS FED BREASTMILK
BY REGION OF RESIDENCE
MANITOBA
JULY 1, 1987-DECEMBER 31, 1988

Region	Total Births of Low Birth Weight	Missing Data or Not Applicable'	Percent of newborns fed breastmilk at maternal discharge
Winnipeg North	119	16	70
Winnipeg South	183	12	77
Winnipeg West Central	54	4	72
Westman	134	31	65
Eastman	73	6	72
Central	93	9	74
Interlake	49	1	71
Parklands	33	3	83
Norman	28	5	52
Thompson	52	13	41
City of Winnipeg	339	29	65
MANITOBA	**1157***	**129**	**68**

* Based on completed postpartum referral forms received

IMMUNIZATION

Information on intended care provider for newborn immunization is collected on the **Postpartum Referral Form**. These data were compared with data on actual care provider for newborn first immunization, obtained from the Manitoba Immunization Monitoring System (MIMS). Overall, 77 percent (17,675) of newborns received their first immunization from a physician (Table 10). Public health nurses provided 18 percent of the total newborn first time immunization services (4,195), (unknown and other – 5 percent).

There were discrepancies between intended and actual care provider for newborn immunization services (Table 10). For example, the intent of mothers of 20 percent of newborns (4,484) was to receive immunization services at a child health clinic. However, 20 percent of these newborns actually received first time immunization services from a physician.

TABLE 10
IMMUNIZATION
CHOICE OF CARE PROVIDER*
MANITOBA
JULY 1, 1987-DECEMBER 31, 1988

Intent		Actual		
Care Provider	**Percentage**	**Physician**	**Public Health Nurse**	**Other/ Unknown**
Missing Data	11.0%	66%	22%	12%
Child Health Clinic	20.0%	20%	71%	9%
Physician	65.0%	96%	2%	2%
Undecided	5.0%	79%	16%	5%
Immunization Refused	.05%	15%	15%	69%
MANITOBA**		**77%**	**18%**	**5%**

* Percentages may not add up to 100 percent due to rounding
** Excludes 538 newborns that could not be matched on the MIMS system and 1,363 live births due to missing postpartum referral forms

Table 11 illustrates regional data on choice of care provider for newborn first time immunizations. Physicians provided the majority of these immunizations in all regions except Parklands and Norman. Public health nurses provided the majority of newborn first time immunizations in these regioms.

TABLE 11

IMMUNIZATION

CHOICE OF CARE PROVIDER BY REGION OF RESIDENCE*

MANITOBA

JULY 1, 1987-DECEMBER 31, 1988

Region	Intended			Actual		
	CHC	Physician	Undecided	Public Health Nurse	Physician	Other/ Unknown
Winnipeg North**	2%	95%	3%	1%	98%	2%
Winnipeg South**	1%	98%	1%	0%***	98%	2%
Winnipeg West Central**	4%	93%	3%	1%	97%	2%
Westman	40%	49%	11%	37%	62%	1%
Eastman	29%	62%	9%	22%	74%	4%
Central	52%	36%	13%	47%	48%	5%
Interlake	33%	63%	4%	30%	67%	3%
Parklands	77%	19%	3%	67%	28%	5%
Norman	97%	1%	2%	91%	4%	6%
Thompson	52%	40%	8%	22%	42%	36%
MANITOBA**	**22%**	**73%**	**5%**	**18%**	**77%**	**5%**

* Percentages may not add up to 100 percent due to rounding

** Includes data from City of Winnipeg Health

*** <.5%

**** Excludes: 2,487 newborns due to missing data on intended care provider; 13 newborns due to refused immunization; 1,363 live births due to missing postpartum referral forms; and 543 newborns that could not be matched on the MIMS system

REFERRAL PROCESS

Approximately 91 percent of postpartum women were contacted by a public health nurse following hospital discharge (missing data – one percent). Information on type of contact is not collected on the **Postpartum Referral Form.**

The **Postpartum Referral Form** has the potential to capture additional information on postpartum referrals, such as time between receipt of referral by the public health nurse, and contact with the client in the community. However, approximately 50 percent of data on the date of receipt of referral by the public health office and public health nurse are missing.

Public health nurse follow-up was planned for approximately 53 percent of families. Planned duration of follow-up was short term in 72 percent of cases, and long term in 14 percent of cases (missing data – 14 percent). Planned type of follow-up included home visit (49 percent), and telephone (22 percent) (Other type and missing data – 29 percent). Approximately 6 percent of families were referred to other community health services (missing data – 8 percent).

SUMMARY AND RECOMMENDATIONS

This report provides data on the status of childbearing women and newborns in Manitoba for the data collection period of July 1, 1987 – December 31, 1988. Program planners and service providers may use these data to identify target areas for maternal child health programs.

It is recommended that the **Postpartum Referral Form** and the **Manitoba Health Services Commission Postpartum Computer Program** be reviewed to increase the accuracy of the data, to ensure that the variables included on the form are appropriate, and to facilitate discharge planning and admission to the community health system. Specifically, it is recommended that this review include the following:

1. Review of each variable to determine:
   - the usefulness of the variable in the referral process
   - the importance of the variable as an indicator of risk
   - whether alternative/additional variables would be valuable as risk indicators and/or for communication purposes.

2. Review of the format of the **Postpartum Referral Form** and guidelines to determine if changes are required in order to increase the consistency of completing the form.

3. Review of all edit specifications (codes) of the Manitoba Health Services Commission Postpartum Computer Program to determine:
   - the appropriateness of each edit specification
   - the comprehensiveness of each edit specification

4. Review of the efficiency and accuracy of the data input process.

The Postpartum Referral data base has the potential to be a valuable mechanism for providing continuity of care to childbearing families, and for providing data to identify trends in the childbearing population in Manitoba. This information can contribute to the identification of high risk groups, and to predicting future health needs in the childbearing population. Ultimately, the information can provide a basis for health care planning, evaluation and resource allocation by facilities and community health programs.

REFERENCES

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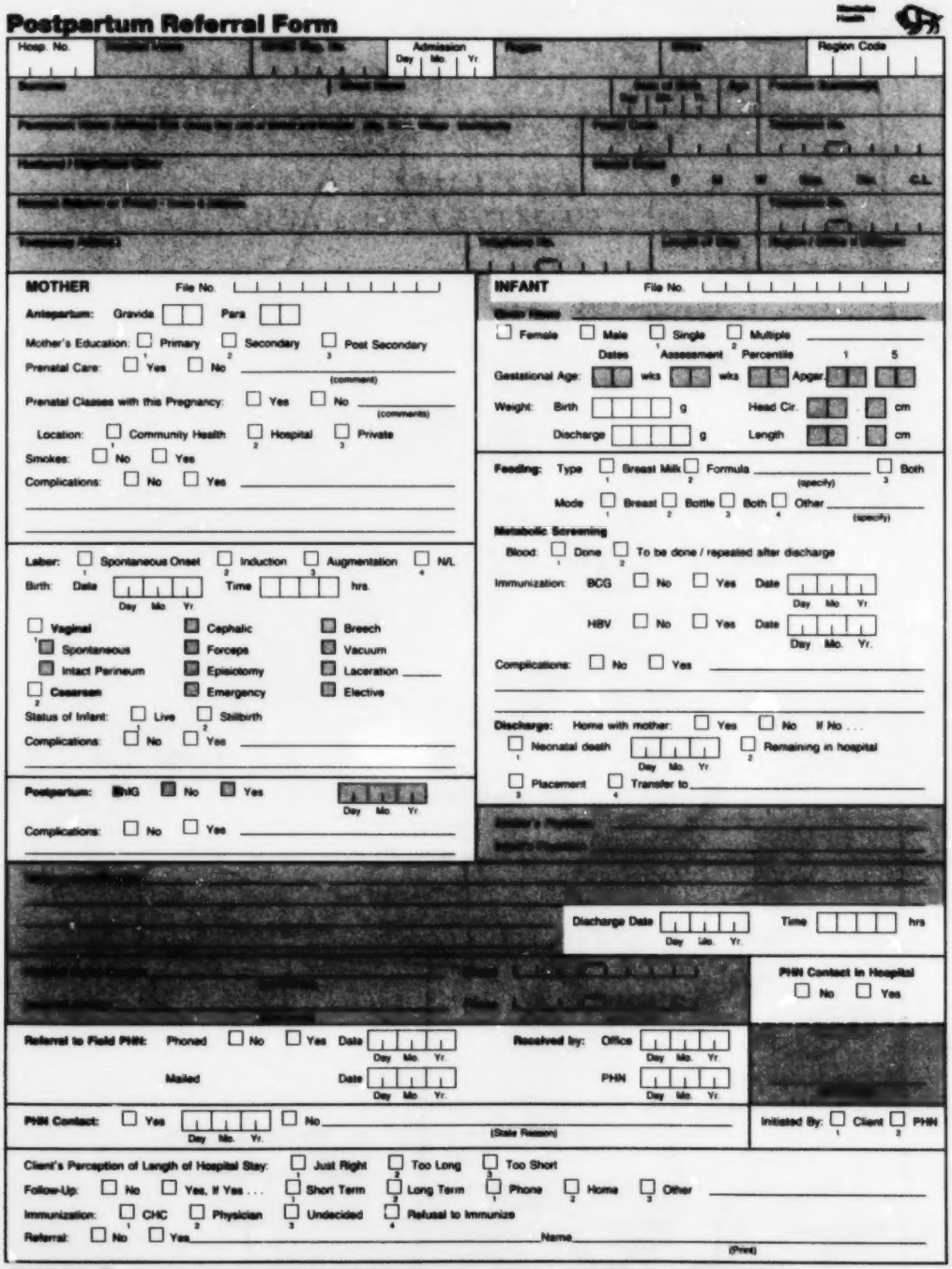
Manitoba Health Services Commission, Table 28, Obstetrical Survey, 1988-1989.

McNalley, E., Hendricks, S., and Horowitz, I. (1985) A look at breastfeeding trends in Canada (1963-1982). *Canadian Journal of Public Health*, 76, March/April. p. 101-107.

———— (1990). *Children of Canada, Children of the World. Canada's National Paper for the World Summit for Children.* Ottawa, Minister of Supply and Services Canada.

APPENDIX A



Postpartum Referral Form

Hosp. No. | Admission Day Mo. Yr. | Region | Region Code

MOTHER File No.

Antepartum: Gravida Para

Mother's Education: Primary Secondary Post Secondary

Prenatal Care: Yes No (comment)

Prenatal Classes with this Pregnancy: Yes No (comments)

Location: Community Health Hospital Private

Smokes: No Yes

Complications: No Yes

Labor: Spontaneous Onset Induction Augmentation N/L

Birth: Date Day Mo Yr Time hrs.

Vaginal: Spontaneous, Intact Perineum, Forceps, Episiotomy, Emergency, Cephalic, Breech, Vacuum, Laceration, Elective

Cesarean

Status of Infant: Live Stillbirth

Complications: No Yes

Postpartum: BHG No Yes Day Mo Yr

Complications: No Yes

INFANT File No.

Female Male Single Multiple

Dates Assessment Percentile 1 5

Gestational Age: wks wks Apgar

Weight: Birth g Head Cir. cm

Discharge g Length cm

Feeding: Type Breast Milk Formula (specify) Both

Mode Breast Bottle Both Other (specify)

Metabolic Screening

Blood: Done To be done / repeated after discharge

Immunization: BCG No Yes Date Day Mo Yr

HBV No Yes Date Day Mo Yr

Complications: No Yes

Discharge: Home with mother: Yes No If No . . .

Neonatal death Day Mo Yr Remaining in hospital

Placement Transfer to

Discharge Date Day Mo Yr Time hrs

PHN Contact in Hospital No Yes

Referral to Field PHN: Phoned No Yes Date Day Mo Yr Received by: Office Day Mo Yr

Mailed Date Day Mo Yr PHN Day Mo Yr

PHN Contact: Yes Day Mo Yr No (State Reason)

Initiated By: Client PHN

Client's Perception of Length of Hospital Stay: Just Right Too Long Too Short

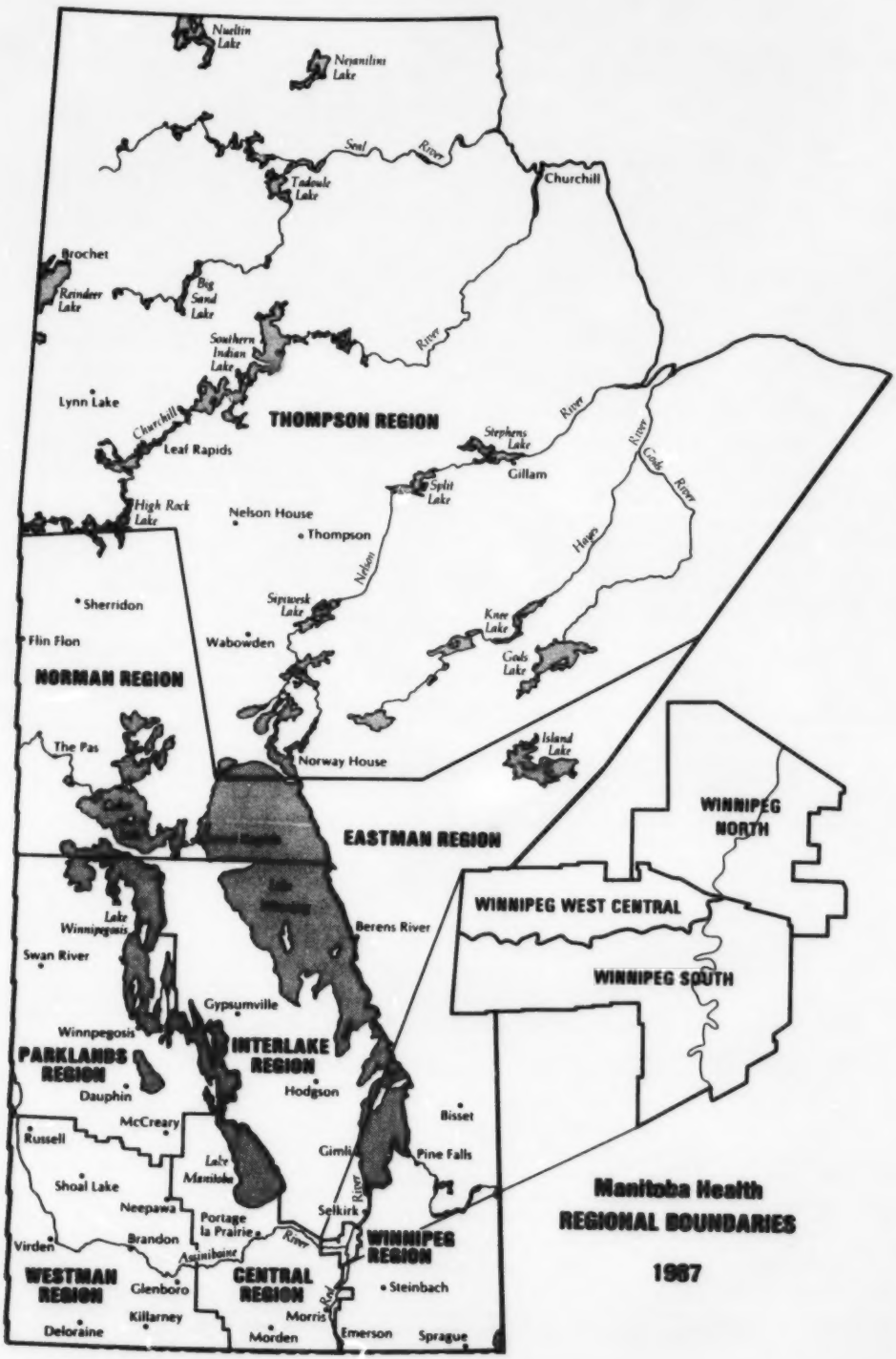
Follow-Up: No Yes, If Yes . . . Short Term Long Term Phone Home Other

Immunization: CHC Physician Undecided Refusal to Immunize

Referral: No Yes Name (Print)

MS-12581 B (Rev. 88) WHITE COPY — Maternal and Child Health, 337-599 Portage Ave., Winnipeg, MB R3B 3N4 YELLOW COPY — Public Health Chart

APPENDIX B


Nueltin Lake
Nejanilini Lake
Seal River
Tadoule Lake
Churchill
Brochet
Reindeer Lake
Big Sand Lake
Southern Indian Lake
River
Lynn Lake
Churchill River
THOMPSON REGION
Leaf Rapids
Stephens Lake
Gillam
Split Lake
Limestone River
Gods River
High Rock Lake
Nelson House
Thompson
Nelson River
Hayes River
Sherridon
Sipiwesk Lake
Knee Lake
Flin Flon
Wabowden
Gods Lake
NORMAN REGION
The Pas
Island Lake
Norway House
WINNIPEG NORTH
EASTMAN REGION
WINNIPEG WEST CENTRAL
Lake Winnipegosis
Berens River
WINNIPEG SOUTH
Swan River
Gypsumville
Winnipegosis
INTERLAKE REGION
PARKLANDS REGION
Dauphin
Hodgson
Bissett
McCreary
Russell
Gimli
Pine Falls
Lake Manitoba
Shoal Lake
Red River
Neepawa
Portage la Prairie
Selkirk
Virden
Brandon
Assiniboine River
WINNIPEG REGION
WESTMAN REGION
Glenboro
CENTRAL REGION
Steinbach
Killarney
Morris
Deloraine
Morden
Emerson
Sprague
Manitoba Health
REGIONAL BOUNDARIES
1987

APPENDIX C

NEWBORNS FED BREASTMILK AT MATERNAL DISCHARGE BY HOSPITAL OF DELIVERY

MANITOBA

JULY 1, 1987-DECEMBER 31, 1988

Hospital	Total Births	Missing Data or Not Applicable	Percentage newborns fed breastmilk at maternal discharge*
Altona Community Memorial H.C.	86	2	89
Arborg & Districts Health Centre	84	2	74
Baldur District Hospital	9	0	67
Beausejour District Hospital	36	2	65
Benito Medical Nursing Unit	2	0	100
Bethel Hospital	231	4	90
Bethesda Hospital	208	10	83
Birtle Health Services District	12	0	83
Boissevain Health Centre	12	1	64
Brandon General Hospital	1846	137	70
Carberry Plains Health Facility	27	2	84
Carman Memorial Hospital	138	9	72
Cartwright & District Hospital	1	0	100
Centre-Medico-Social Desalaberry District Health Centre	18	0	56
Churchill Health Centre	18	0	56
Concordia Hospital	1	0	100
Dauphin General Hospital	333	7	70
Elkhorn Medical Nursing Unit	1	0	100
Erickson District Health Centre	4	0	100
Flin Flon General Hospital	96	4	80
Gillam Hospital Inc.	2	0	100
Gladstone District Hospital	34	1	76
Glenboro District Hospital	4	0	100
Grandview District Hospital	28	3	72
Hamiota District Health Centre	45	1	80
Health Sciences Centre	5010	254	68
Home Birth	2	1	100
Hunter Memorial Hospital	64	1	62
Johnson Memorial Hospital	40	5	60
Killarney & District Hospital	99	3	79
Lake of the Woods District Hospital	1	0	100

Hospital	Total Births	Missing Data or Not Applicable	Percentage newborns fed breastmilk at maternal discharge*
Lakeshore District – Ashern Hospital	47	3	66
Lakeshore District – Eriksdale Hospital	17	2	5
Leaf Rapids Health Centre	1	0	0
Lorne Memorial Hospital	73	3	63
Lynn Lake Hospital	17	0	82
Melita Health Centre	29	0	59
Minnedosa District Hospital	26	1	68
Misericordia General Hospital	1084	41	70
Morden District Hospital	243	2	87
Morris District Hospital	21	1	65
Neepawa Hospital District #9	83	1	79
Norway House Hospital	58	5	60
Notre Dame Hospital	1	0	0
Notre Dame Medical Nursing Unit	20	1	68
Percy E. Moore Hospital	10	1	56
Pinawa Hospital	35	5	83
Pine Falls General Hospital	72	2	66
Poplar River Nursing Station	1	1	–
Portage District General Hospital	570	16	77
Reston Community Hospital	20	0	55
Riverdale Health Services District	9	1	63
Riverton Clinic	2	0	0
Roblin District Health Centre	19	0	47
Rock Lake Health District	20	0	70
Russell District Hospital	105	6	65
Salvation Army Grace General Hospital	1872	75	78
Selkirk & District General Hospital	239	12	65
Seven Oaks General Hospital	1	0	100
Shoal Lake – Strathclair Health Centre	13	0	62
Snow Lake Medical Nursing Unit	2	0	50
Souris District Hospital	73	2	87
South West Health Centre	39	0	79

Hospital	Total Births	Missing Data or Not Applicable	Percentage newborns fed breastmilk at maternal discharge*
St. Boniface General Hospital	6048	283	77
St. Claude Hospital	9	1	25
Ste. Anne Hospital	106	3	79
Ste. Rose General Hospital	64	3	54
Stonewall & District Health Centre	17	2	60
Swan River Valley Hospital	268	11	70
The Pas Health Complex	356	16	56
Thompson General Hospital	964	178	56
Tiger Hills Health District	52	1	67
Victoria General Hospital	2231	60	81
Virden District Hospital	78	5	55
Wawanesa & District Memorial Health Centre	6	1	40
Winnipegosis General Hospital	6	1	40
MANITOBA	**23,671****	**1,194**	**73**

* Based on completed postpartum referral forms

** Excludes 1,391 newborns due to missing postpartum referral forms

APPENDIX D

NEWBORNS FED BREASTMILK AT MATERNAL DISCHARGE BY HOSPITAL OF DELIVERY AND REGION OF RESIDENCE*

MANITOBA

JULY 1, 1987-DECEMBER 31, 1988

REGION: Winnipeg South

Hospital	Number of Births	Percentage of newborns fed breastmilk at maternal discharge**
Health Sciences Centre	585	81
Misericordia General Hospital	132	76
Salvation Army Grace General Hospital	395	83
St. Boniface General Hospital	1520	81
Victoria General Hospital	1091	81

REGION: Winnipeg North

Hospital	Number of Births	Percentage of newborns fed breastmilk at maternal discharge**
Health Sciences Centre	875	75
Misericordia General Hospital	162	74
Salvation Army Grace General Hospital	139	80
St. Boniface General Hospital	1234	77
Victoria General Hospital	236	83

REGION: Winnipeg West Central

Hospital	Number of Births	Percentage of newborns fed breastmilk at maternal discharge**
Health Sciences Centre	231	79
Misericordia General Hospital	62	71
Salvation Army Grace General Hospital	613	74
St. Boniface General Hospital	161	83
Victoria General Hospital	49	88

REGION: Westman

Hospital	Number of Births	Percentage of newborns fed breastmilk at maternal discharge**
Birtle Health Services District	11	82
Boissevain Health Centre	12	64
Brandon General Hospital	1776	70
Carberry Plains Health Facility	22	90
Hamiota District Health Centre	45	80
Health Sciences Centre	38	78
Killarney & District Hospital	96	80
Melita Health Centre	29	59
Minnedosa District Hospital	23	68
Neepawa Hospital District #9	64	78
Reston Community Hospital	20	55
Rock Lake Health District	16	69
Russell District Hospital	94	65
Shoal Lake – Strathclair Health Centre	13	62
Souris District Hospital	72	87
South West Health Centre	39	79
Virden District Hospital	78	55

REGION: Eastman

Hospital	Number of Births	Percentage of newborns fed breastmilk at maternal discharge**
Beausejour District Hospital	34	66
Bethesda Hospital	204	83
Centre-Medico-Social Desalaberry District Health Centre	20	80
Health Sciences Centre	186	79
Misericordia General Hospital	47	84
Pinawa Hospital	34	83
Pine Falls General Hospital	62	65
Salvation Army Grace General Hospital	62	74
St. Boniface General Hospital	876	77
Ste. Anne Hospital	101	79
Victoria General Hospital	205	79

REGION: Central

Hospital	Number of Births	Percentage of newborns fed breastmilk at maternal discharge**
Altona Community Memorial Health Centre	86	89
Bethel Hospital	229	90
Brandon General Hospital	45	65
Carman Memorial Hospital	136	72
Gladstone District Hospital	34	76
Health Sciences Centre	226	77
Lorne Memorial Hospital	62	59
Misericordia General Hospital	22	74
Morden District Hospital	232	87
Morris District Hospital	20	63
Neepawa Hospital District #9	18	83
Notre Dame Medical Nursing Unit	19	67
Portage District General Hospital	565	77
Salvation Army Grace General Hospital	138	84
St. Boniface General Hospital	178	84
Tiger Hills Health District	49	65
Victoria General Hospital	133	82

REGION: Interlake

Hospital	Number of Births	Percentage of newborns fed breastmilk at maternal discharge**
Arborg & Districts Health Centre	83	74
Health Sciences Centre	375	68
Hunter Memorial Hospital	63	63
Johnson Memorial Hospital	37	66
Lakeshore District – Ashern Hospital	46	67
Lakeshore District – Ericsdale Hospital	17	53
Misericordia General Hospital	37	81
Salvation Army Grace General Hospital	128	83
Selkirk & District General Hospital	216	64
St. Boniface General Hospital	273	74
Stonewall & District Health Centre	16	57
Victoria General Hospital	63	84

REGION: Parklands

Hospital	Number of Births	Percentage of newborns fed breastmilk at maternal discharge**
Brandon General Hospital	12	58
Dauphin General Hospital	318	69
Grandview District Hospital	27	71
Health Sciences Centre	46	48
Roblin District Health Centre	19	47
St. Boniface General Hospital	38	66
Ste. Rose General Hospital	60	53
Swan River Valley Hospital	265	70

REGION: Norman

Hospital	Number of Births	Percentage of newborns fed breastmilk at maternal discharge**
Flin Flon General Hospital	93	80
Health Sciences Centre	15	64
St. Boniface General Hospital	35	77
The Pas Health Complex	343	56

REGION: Thompson

Hospital	Number of Births	Percentage of newborns fed breastmilk at maternal discharge**
Churchill Health Centre	18	56
Health Sciences Centre	156	54
Lynn Lake Hospital	17	82
Norway House Hospital	54	59
St. Boniface General Hospital	73	69
Thompson General Hospital	958	56

REGION: City of Winnipeg

Hospital	Number of Births	Percentage of newborns fed breastmilk at maternal discharge**
Health Sciences Centre	2368	61
Misericordia General Hospital	604	64
Salvation Army Grace General Hospital	380	75
St. Boniface General Hospital	1644	74
Victoria General Hospital	441	80

* Excludes hospitals with ≤10 births to residents of the region according to completed postpartum referral forms received

** Based on completed postpartum referral forms